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Regulatory Policy and Innovation in the Wine Industry: A Comparative Analysis of Old and New World Wine Regulations

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REGULATORY POLICY AND INNOVATION IN THE WINE INDUSTRY: A COMPARATIVE ANALYSIS OF OLD AND NEW WORLD WINE REGULATIONS

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Economists and politicians alike tie free trade concepts to the principles of Adam Smith. Yet they often forget that his economic model was rooted in the international trade of wine.[1]

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1. *See* ADAM SMITH, AN INQUIRY INTO THE NATURE AND CAUSES OF THE WEALTH OF NATIONS 335 (MetaLibri Dig. Library 2007) (1776), https://www.ibiblio.org/ml/libri/s/SmithA_WealthNations_p.pdf (comparing the similar economic impacts of the scarcity of money and wine).

I. INTRODUCTION

Fermenting grapes into wine is an industry dating to ancient times. It is also an industry that has faced government regulation as far back as at least the Roman Empire. And though the process of viticulture has evolved to some degree, winemaking has largely remained centered in Old World countries in Europe, where winemaking originated. The 20th century gave birth to experimental wine production outside of Europe in the United States, Chile, and Australia, among others. Today, demand for New World wines is outpacing demand for Old World wines, leading producers to ask, what changed?

The growth of the New World wine sector has, in part, to do with opportunities created by the regulatory environment. Strict production and quality control standards allow Old World wine to maintain its quality and high price on world markets; however, regulations may also hold back Old World producers from innovative practices that drive market growth. Growth in sales and consumption of Old World wines has been flat for years. New World wine producers, armed with more flexibility in their regulatory environments, have had great success in attracting global customers looking for high-quality yet

affordable and interesting wine options by using innovative production and marketing tactics not available to Old World producers. Growth in sales and consumption of New World wines has been surging.

The history of wine production in the Old World is one of competition, cycles of overproduction and shortage, and radical variations in quality. These factors imposed costs on producers that made sustainable growth difficult.[2] Governments entered the fray in earnest in the 18th century to lay down regulations that would reduce transaction costs by establishing clear rules for the production of wine.[3] These institutional rules underlie the development of a wine region yielding some of the highest quality wines in the world. However, these rules have also held back this region from innovation and adaptability to changing demands in international wine markets.

In this article, I explore whether strict regulatory policies in the production and sale of wine limit the responsiveness of the wine sector to changing market demand. To answer this question, I will perform a legal and public policy analysis of wine regulations, comparing Old World and New World rules and assessing their effects on the responsiveness of producers in each region. Using France as a representative of Old World producers, and Chile and the United States as representatives of New World producers, my study will survey the regulatory environments of each country in historical context. Then, using consumer survey data, I will assess the key determinants for wine selection in the largest market for consumption of wine—the United States. With that information, I will identify the key regulatory policies that may inhibit responsiveness to market demand.

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2. *See* Ronald H. Coase, *The Institutional Structure of Production* 6 (Univ. Chi. L. Occasional Paper, No. 28, 1992), https://chicagounbound.uchicago.edu/occasional_papers/34/ (explaining that institutional structures are critical to an efficient economic system because they account for transaction costs when determining prices and markets).

3. *See* JANCIS ROBINSON, THE OXFORD COMPANION TO WINE 234 (Jancis Robinson ed., 3d ed. 2006) (noting the first known regulation of wine occurred in Rome in 92 A.D.); *see also* Douglass C. North, *Institutions*, 5 J. ECON. PERSP. 97, 98 (1991) (explaining the importance of institutions in reducing transaction costs for firms).

II. BACKGROUND

The heart of my thesis is that government regulations meant to protect wine quality may limit opportunities to adapt to changing consumer preferences in the wine export market. More precisely, the stricter the regulation, the less opportunity firms have to respond to changes in consumer demand through innovative techniques in the production and marketing of their products. To test this thesis, I have selected three markets with vastly distinct regulatory environments—France, being a traditionally rigid regulatory environment; Chile, being a *laissez faire* regulatory environment; and the United States, falling in between the two. The first part of this analysis involves an explanation of the regulatory environments in the wine sector in each of those countries. This analysis will show the dramatic differences in wine laws and their *raison d'être*. To supplement this research, I have also conducted a survey of 500 American wine-drinking consumers to assess buying preferences in order to provide useful insights into changing demand for wine. Finally, I spoke with a number of vineyards and wine associations to better understand their production and marketing constraints. The intent of this research is to provide useful guidance for policymakers in existing and new wine producing countries in order to allow them to effectively capitalize on the changing market for wine.

III. HISTORY

Heritage and tradition have driven the Old World[4] wine market for hundreds of years. Consumers relied on consistently-high quality wines from well-known vineyards in France, Italy, Spain, and Germany, which delivered that quality in part due to their vast experience and in part due to the strict governmental controls on wine production.[5] Good wine, almost without exception, came from the Old

4. *See* Kym Anderson, *Wine's New World*, FOREIGN POLICY (Nov. 2, 2009, 6:53 PM), https://foreignpolicy.com/2009/11/02/wines-new-world/ (asserting traditional European wine-producing countries are known as "Old World" wine producers).

5. *See* KYM ANDERSON & VICENTE PINILLA, WINE GLOBALIZATION: A NEW COMPARATIVE HISTORY 35 (Kym Anderson et al. eds., 2018) (explaining France, Italy, and Spain were the three principal wine exporting countries for the past 200 years).

World. Market demand was driven by harvests—overproduction meant lower prices and underproduction meant higher prices. Competition was predictable and local.

This is no longer the case.[6] Outside the Old World, in countries such as Chile, Australia, and the United States, the environment for wine production has existed but has not been seen as high-quality or significant competition against European producers. Expert reviews by Wine Spectator, Wine Enthusiast, Robert Parker, and James Suckling, for example, consistently ranked European wines as among the highest quality.[7] But this is also changing as non-European wines are finding their way on to these expert lists. Changes in production techniques and innovation in enology have changed New World wines in significant ways. This has changed the perception of quality of these wines as well as their positioning in world rankings.[8] The most significant turning point may have been the famous "Judgment of Paris" in 1976, when a blind taste test by French wine critics resulted

6. *See* Christopher A. Bartlett & Sarah Mcara, *Global Wine War 2015: New World Versus Old World* 3–4 (Harv. Bus. Rev., No. 9-916-415, 2017) (discussing how the New World's foray into wine production has caused wine markets to be less predictable).

7. *See Robert Parker's 100-Point Wines*, WINE SEARCHER, https://www.wine-searcher.com/robertparker.lml (last visited Oct. 27, 2018) (ranking several European wines as 100-point wines); *see also The Enthusiast 100 of 2016*, WINE ENTHUSIAST, https://www.winemag.com/toplists/top-100-wines-2016/?s=&drink_typ...desc&stock_no=1-100&bestbuy_year=2016&bestbuy=top-100-wines-2016 (last visited Oct. 27, 2018); *The Enthusiast 100 of 2017*, WINE ENTHUSIAST, https://www.winemag.com/toplists/enthusiast-100-2017/?s=&drink_typ...desc&stock_no=1-100&bestbuy_year=2017&bestbuy=enthusiast-100-2017 (last visited Oct. 27, 2018); *Top 100 Lists*, WINE SPECTATOR, http://top100.winespectator.com/lists/ (last visited Oct. 27, 2018) [hereinafter WINE SPECTATOR] (showing several European wines as top-ranking wines from 2015-2017); *Top 100 Wines 2015*, WINE ENTHUSIAST, https://www.winemag.com/toplists/top-100-wines/?s=&drink_type=win...t_dir=desc&stock_no=1-100&bestbuy_year=2015&bestbuy=top-100-wines (last visited Oct. 27, 2018); James Suckling, *The Top Wines of 2016*, JAMESSUCKLING.COM (Oct. 20, 2016), https://www.jamessuckling.com/wine-tasting-reports/top-100-wines-2016/; James Suckling, *Top 100 Wines of 2017*, JAMESSUCKLING.COM (Nov. 2, 2017), https://www.jamessuckling.com/wine-tasting-reports/top-100-wines-2017/.

8. *See, e.g.*, *Neyen Malbec 2016 Recibe 100 Puntos de James Suckling*, VINOS DIFERENTES (Mar. 27, 2018), https://vinosdiferentes.com/neyen-malbec-2016/ (announcing that James Suckling awarded a Chilean wine (2016 Neyen Malbec from Veramonte Vineyard) with 100 points, a perfect score, in 2018).

(twice) in the triumph of American over French wines.[9]

Improvements in production undoubtedly helped New World wines overcome the long-held negative perception in comparison to Old World wines. Yet part of the growth of the New World wine market also has to do with changes in consumer demand. Strict production and quality control standards allowed Old World wine to maintain its appeal and high price on world markets; however, those strict quality controls also limited the ability of Old World producers to innovate in production and marketing practices, features that figure significantly in recent market growth.[10] New World wine producers, armed with more flexibility in their regulatory environments, have had great success in attracting global customers looking for high-quality yet affordable and interesting wine options by using innovative production and marketing tactics not available to Old World producers.

In Part IV of this article, I will examine the relationship between regulations and innovation in the wine production industry. I will explain how market regulations can help or hinder responsiveness to changing market demands in production and marketing. In Part V and VI, I will provide an overview of wine market regulations in France and the European Union (EU)[11] more broadly as well as in Chile and the United States. In Part VII, I will discuss evolving consumer preferences. In Part VIII, I will present data collected from the consumer and wine producer interviews. In Part IX, I will highlight the key regulatory policies that appear to affect responsiveness to changing consumer preferences. Part X concludes this paper with a brief restatement of the material covered in this article.

III. PROBLEM STATEMENT

Historically, European wine producers have dominated global wine sales and have left little room for non-European producers to join the

9. Gideon Rachman, *The Globe in a Glass*, ECONOMIST (Dec. 16, 1999), https://www.economist.com/special-report/1999/12/16/the-globe-in-a-glass.

10. Bartlett & Mcara, *supra* note 6, at 3–4.

11. Note that all subsequent references to the European Union or its predecessors, the European Economic Community and the European Community, will be denoted "EU".

market.[12] European wines have consistently been judged by international and national organizations as among the best in the world and the sheer quantity of production has assured them top places on most quality rankings.[13] High prices have likewise been associated with these highly-rated European wines.[14]

More recently, demand for wine is increasing, with the expected number of liters of wine sold to top 30 billion between 2016 and 2020.[15] Unlike in the past, however, much of the wine being purchased is coming from outside of Europe, in New World countries like Chile and the United States. The strict regulatory regime in Europe has enabled producers to produce high-quality wines that attract top prices, but trends show an increasing interest in wines based upon other factors, such as affordability, design, and marketing.[16] This has many Old World producers concerned. "Until recent years wine was with us, we were the center, the unavoidable reference point. Today, the barbarians are at our gates: Australia, New Zealand, the United States, Chile, Argentina, South Africa."[17]

The wine sector in every country faces extensive government regulation, not least of which is because of the alcohol content.[18] However, regulations can be crafted to serve a variety of purposes. For instance, a regulation may be intended to protect the quality of a

12. *See World Wine Production by Country*, WINE INST., https://www.wineinstitute.org/files/World_Wine_Production_by_Country_2015.pdf (last updated Apr. 10, 2017) (demonstrating that together, France, Italy, and Spain produce 47% of all wine sold on global markets).

13. *See* WINE SPECTATOR, *supra* note 7 (demonstrating that 50% of the top 10 wines originated in Europe in 2017).

14. *Id.* (representing prices between $37 and $61 in 2017).

15. *Global Wine Market 2016-2020: Increasing Demand for Wine in US and China / Mergers and Acquisitions in the Market / Effects of Natural Disasters and Adverse Weather Conditions - Research and Markets*, BUS. WIRE (Oct. 18, 2016), https://www.businesswire.com/news/home/20161018006026/en/Global-Wine-Market-2016-2020-Increasing-Demand-Wine.

16. *See* WINE SPECTATOR, *supra* note 7 (recognizing 40% of the top 10 wines as California-based and 10% as Australian).

17. Anderson, *supra* note 4, at 8 (quoting the French Ministry of Agriculture Report in 2001).

18. *See, e.g.*, Joseph Patrick Carroll, Comment, *Exporting Wine Through the Barricades of Fortress Europe*, 11 TRANSNAT'L L. 429, 431–32 (1998) (explaining the EU's complex set of regulations for exporting, marketing, and selling wine, and their tariffs based on alcohol content).

sector, especially when that country or region enjoys recognition for a certain quality.[19] A regulation may also be intended to protect the health and safety of consumers, especially when there is a likelihood of abuse, which is often the case with alcoholic beverages.[20] Or, a regulation can be intended to provide flexibility within the sector, as is often implemented in newer sectors to allow the industry to find its own path to profitability.[21] This article examines how distinct regulatory approaches affect the ability of the wine industry to innovate and react to changing consumer demand. But first, we must describe how consumer demand is changing in this sector.

A. INNOVATION VS. REGULATION

For purposes of this article, I am adopting the classical definition of innovation set forth last century by Joseph Schumpeter as the "commercially successful application" of an idea from an invention that becomes widely adopted by an industry.[22]

Given this definition, we must inquire whether governmental regulation of business limits the ability of that business to be responsive to consumer demand through adaptation and innovation. Governmental regulations on business create compliance obligations—burdens in the operation of business.[23] These obligations might also spur new innovation as businesses attempt to innovate by circumventing regulations that restrict traditional practices.[24]

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19. *See id.* at 450–51 (explaining that European Council regulations place restrictions on the use of geographic names because different regions provide unique quality wines).

20. *See id.* at 445–46.

21. *See, e.g.*, Jacques Pelkmans & Andrea Renda, *Does EU Regulation Hinder or Stimulate Innovation?* 7–9 (CEPS Spec. Rep. No. 96, 2014), https://www.ceps.eu/publications/does-eu-regulation-hinder-or-stimulate-innovation (finding flexible regulations can be "a powerful stimulus to innovation").

22. Nicholas Ashford & George Heaton, *Regulation and Technological Innovation in the Chemical Industry*, 46 L. & CONTEMP. PROBS. 109, 110 (1983).

23. Luke A. Stewart, *The Impact of Regulation on Innovation in the United States: A Cross-Industry Literature Review* 2 (Info. Tech. & Innovation Found., 2010), https://www.itif.org/files/2011-impact-regulation-innovation.pdf ("[R]egulation places a compliance burden on firms, which can cause them to divert time and money from innovative activities to compliance efforts.").

24. *See id.* (using an example of a business regulation that limits the use of paper checks causing financial institutions to innovate with the creation of electronic

Similarly, regulations that include flexibilities allowing measured compliance may encourage innovation rather than deterring it.[25]

In the wine industry, innovation and quality can be at odds with one another. In response to rising demand for French wine in the early 20th century, many producers added ingredients that diluted the pure wine grapes and created beverages that today's wine connoisseurs would be loath to drink.[26] These "fraudulent" wines were outlawed by government decree in an attempt to protect consumers from impure wines and producers from unfair competition.[27]

A century later, a new form of innovation in the wine industry has developed. Technology is being used to ensure successful harvests through the use of satellite and drone monitoring of vines, targeted irrigation, and sometimes genetically modified crops that resist pests or other problems.[28] Grapes from different regions around the world are being blended to produce unique styles of wine.[29] Sugars and commercial yeasts are added to the fermenting wine, along with wood chips and other flavor-contributors.[30] Wine is being aged not only in oak barrels, but also in clay pots, concrete eggs, and whiskey barrels.[31]

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checks).

25. *See* Pelkmans & Renda, *supra* note 21, at 8 ("The more regulation is flexible . . . the more innovation can be stimulated.").

26. TIM UNWIN, WINE AND THE VINE: AN HISTORICAL GEOGRAPHY OF VITICULTURE AND THE WINE TRADE 313–14 (1991) (describing the widespread practices of diluting wine with water, sugar, and sometimes lead, to "stretch" the wine in a response to growing demand in the early 20th century).

27. *See id.* at 314 (explaining that France passed a general law in the 20th century to counter the fraudulent production of wine).

28. *See, e.g.*, Annabelle Homer, *Australian Scientist Develops Grape Vines*, ABC NEWS (Oct. 27, 2011), http://www.abc.net.au/news/rural/2011-10-27/australian-scientist-develops-gm-grape-vines/6100936 (reporting that a Adelaide plant scientist has developed genetically modified grape vines that are resistant to mildew).

29. *See* Jim Button & Chris Mercer, *Bordeaux Red Blends Around the World: Seven of the Finest*, DECANTER (Sept. 8, 2017), https://www.decanter.com/wine-reviews-tastings/bordeaux-red-blends-fine-wine-375790/ (describing ways wine producers are blending grapes from different regions to create Bordeaux blends).

30. *See* Frank J. Prial, *Wine Talk*, N.Y. TIMES (Mar. 2, 1994), https://www.nytimes.com/1994/03/02/garden/wine-talk-342360.html (explaining modern ways to impart an oak smell and taste into wine through the use of oak chips).

31. *See* Tim Patterson, *Decoding the Concrete Egg Trend*, WINE ENTHUSIAST (Mar. 26, 2013), https://www.winemag.com/2013/03/26/pouring-concrete/

Synthetic corks and screw caps are replacing traditional corks in wine bottles.[32] Bottles themselves are being replaced with lighter glass, boxes, or cans. Wine labels are using creative names, pictures, and even QR codes that activate holograms on the bottles.[33]

In Old World countries, innovation is limited in large part by government regulations meant to maintain quality controls. Nearly all of the examples given above are prohibited in the EU. Irrigation is largely prohibited for French wine and very limited for Italian wines.[34] Most corks are still natural, though this is largely a traditional preference rather than a requirement.[35] Wine labels in France and throughout the EU have strict designations for information that can and cannot be included.[36] These, and other complicated regulations, make wine production and marketing in France, and to a lesser extent other EU countries, more restrictive.

A former senior executive of Heineken described the labeling regime in the EU as complicated and confusing, noting that "the labeling rules remain arcane and, to many, incomprehensible."[37] Furthermore, he argues that "the rules stifle innovation, particularly in

(describing the reemerging trend of fermenting and aging wine in concrete).

32. *See* Lettie Teague, *Why Some Winemakers Don't Just Put a Cork In It*, WALL ST. J. (Sept. 10, 2015), https://www.wsj.com/articles/why-some-winemakers-dont-just-put-a-cork-in-it-1441900940.

33. *See Augmented Reality Interactive Labels*, LABEL IMPRESSIONS, https://www.labelimpressions.com/augmented-reality-interactive-labels.html (advertising interactive augmented reality labels for wine bottles).

34. *See* Fleur Martin, *The Irrigation of Grapevines in Europe - An Update on Existing Legislation*, IRRIGAZETTE (Oct. 28, 2016), http://irrigazette.com/en/news/irrigation-grapevines-europe-update-existing-legislation.

35. *See* Henry Samuel, *French Winemakers Abandon the Cork*, TELEGRAPH (July 7, 2008), https://www.telegraph.co.uk/news/worldnews/europe/france/2263569/French-winemakers-abandon-the-cork.html (stating that the replacement of the traditional cork was met with resistance in France but is becoming more common).

36. *See* Council Regulation 479/2008, 2008 O.J. (L 148) 1, 17–18 (explaining EU labeling requirements); Jeff Leve, *French Wine Classifications AOC Law Wine Grapes Vineyards of France*, WINE CELLAR INSIDER, https://www.thewinecellarinsider.com/wine-topics/wine-educational-questions/wine-grapes-vineyard-france-classifications-appellation-law/ (last visited Oct. 28, 2018) (explaining French labeling regimes).

37. Stephen Castle, *When Is a Wine Not a Wine? When European Regulations Say It's Not*, N.Y. TIMES (May 29, 2012), https://nyti.ms/M4awSx.

regions like Britain where the wine industry is relatively young but quickly expanding. Though still only a fraction of the size of the industry of France, Britain has a growing reputation for its white and sparkling wines."[38]

Others have argued that EU regulations, which were intended to protect the quality of wines produced in the Old World by restricting supply, may have had a perverse impact on production.[39] The restrictions on innovation in the Old World, and the much looser regulatory environments for wine in the New World, appear to be playing out on world wine markets. The market share of Old World wine in international markets is declining, while the share of New World wine is growing (*see* Figure 1 below).

38. *Id.* (explaining how a vintner in England who produced wine using imported Argentinian grapes was blocked from selling the wine by EU regulations).

39. *See* Guilia Meloni & Johan Swinnen, *The Political Economy of European Wine Regulations* 3, 11 (LICOS Ctr. for Insts. & Econ. Performance, Discussion Paper No. 320/2012, 2012), http://www.wine-economics.org/aawe/wp-content/uploads/2014/01/Vol8-Issue03-01-Giulia-Meloni-and-Johan-Swinnen.pdf [hereinafter Meloni & Swinnen, *The Political Economy of European Wine Regulations*] (stating that the EU's wine policies have exacerbated structural imbalances in the wine market); *Ex-Post Evaluation of the Common Market Organisation for Wine*, at 12, Tender AGRI/EVALUATION/2002/6 (2004), https://ec.europa.eu/agriculture/evaluation/market-and-income-reports/2004-wine_en ("[D]istillation of wine measures are neither effective nor efficient in eliminating structural surpluses. Distillation measures involve fairly high EU expenditure. The short-term income support through buying-in of wines for distillation stabilises surplus production in the long-term. Additionally, continuous implementation of distillation measures producing industrial alcohol out of wine might be an incentive for higher yields.").

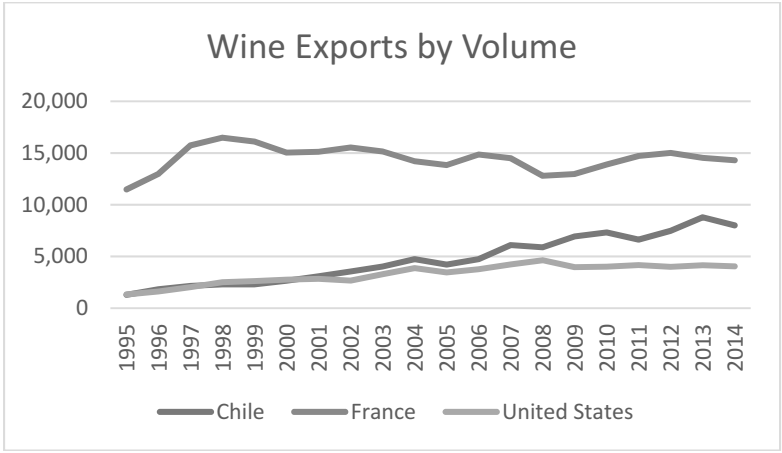

Figure 1. Wine Exports by Volume (1995–2014).[40]

Additionally, consumption patterns appear to be shifting. The largest proportion of wine consumers are in the United States, followed closely by China, where consumption (and production) has dramatically increased in recent years (*see* Figure 2 below).

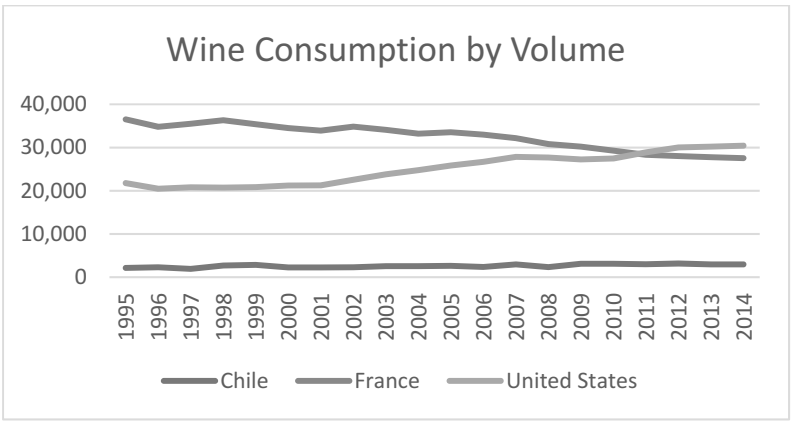

Figure 2. Wine Consumption by Volume (1995–2014).[41]

40. This graph was created by the author to reflect data gathered from the International Organization of Vine and Wine. *Statistics*, INT'L ORG. OF VINE AND WINE, www.oiv.int/en/databases-and-statistics/statistics.

41. This graph was created by the author to reflect data gathered from the International Organization of Vine and Wine. *Statistics*, INT'L ORG. OF VINE AND

Overall wine consumption had been on the decline for years, with Generation X consumers drinking less than their Baby Boomer parents (*see* Figure 3 below). However, millennials appear to have reversed that downward trend, consuming 160 million cases of wine in 2015.[42] They are consuming, on average, 3.1 glasses of wine per sitting.[43]

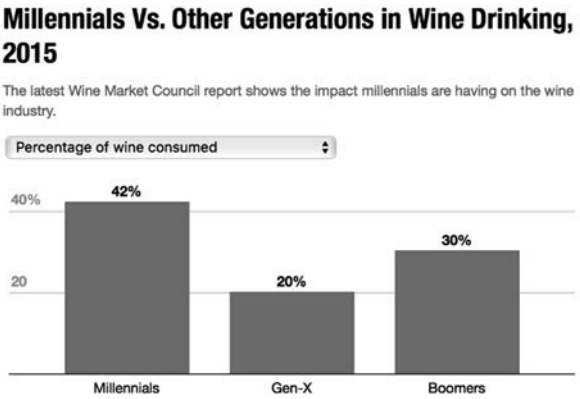

Figure 3. Percentage of Wine Consumed by Generation in 2015.[44]

Innovation in any field can be an expensive endeavor, made more so in the wine industry because of the significant risks faced in the event of a poor crop. Because of this, investments in innovation are concentrated among larger wine producers and adapted later by smaller vintners. Thus, in an environment consisting of mostly smaller producers, the opportunity to invest in innovative techniques can be limited. This creates yet another significant distinction between Old World and New World wine producers.

In the United States, there are roughly 7,000 wine producers, approximately 50% of which are located in California.[45] In Chile, there

WINE, www.oiv.int/en/databases-and-statistics/statistics.

42. Jonathan Chew, *Millennials Are Drinking More Wine Than Boomers*, FORTUNE (Feb. 17, 2016), http://fortune.com/2016/02/17/millennials-wine-council-study/.

43. *Id.*

44. *Id.*

45. *Number of Wineries Grows to 8,391 in North America*, WINES & VINES (Jan. 27, 2014), https://www.winesandvines.com/news/article/127266/Number-of-Wineries-Grows-to-8391-in-North-America.

are roughly 8,000 wine producers.[46] In France, there are roughly 87,400 wine producers.[47] In addition, unlike in France, U.S. and Chilean wine producers are largely consolidated as the vast majority of wines for export are produced by a handful of firms.[48]

Additionally, a majority of Old World wine is produced for domestic consumption which is declining. Conversely, New World wine in Chile, Australia, and South Africa is largely produced for export to China and the United States, where consumption is increasing.[49] Chile exports nearly 80% of the wine that it produces.[50] France exports only 30% of the wine that it produces.[51]

As noted above, millennials are placing importance on different factors and purchasing more wine for consumption than other generations. For instance, millennials prefer more information on a label than country of origin—they prefer to see grape type, expected flavors, and recommended food pairings.[52] Additionally, their affinity for the country of origin, much less the region within that country, is ranked far lower than their preference for information or design (*see* Figure 4 below).

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46. Luis Hennicke, *Chilean Wine Production 2015*, USDA GLOB. AGRIC. INFO. NETWORK (Mar. 4, 2015), https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Wine%20Annual_Santiago_Chile_3-4-2015.pdf.

47. Laurent J. Journo, *Wine Annual Report and Statistics*, USDA GLOB. AGRIC. INFO. NETWORK (July 7, 2015), https://gain.fas.usda.gov/Recent%20GAIN%20Publications/Wine%20Annual%20Report%20and%20Statistics_Paris_France_7-7-2015.pdf.

48. *See* Euan Fleming et al., *The New World Challenge: Performance Trends in Wine Production in Major Wine-Exporting Countries in the 2000s and Their Implications for the Australian Wine Industry*, 3 WINE ECON. & POL'Y 115, 118 (2014) (explaining the dominance of Concha y Toro and other major brands in the Chilean wine market).

49. *See* Bartlett & Mcara, *supra* note 6, at 4–6; *see also* Rachman, *supra* note 9 (describing that in countries such as France, only domestic wine, and not imported wine, is consumed).

50. *See Chile—Wine Numbers*, VINEX, https://en.vinex.market/about/snapshot/Chile-Wine-Numbers (last visited Oct. 27, 2018).

51. *See France—Wine Numbers*, VINEX, https://en.vinex.market/about/snapshot/France-Wine-Numbers (last visited Oct. 27, 2018).

52. Nicholas Johnston & Natalia Velikova, *Millennial Wine Consumers: Attitudes Towards Alternative Wine Packaging* 4, 21 (Tex. Wine Mktg. Research Inst., 2017), http://www.depts.ttu.edu/hs/texaswine/docs/Final_Alternative_Packaging.pdf (last visited Oct. 27, 2018).

Factor	Order of Importance								
	1	2	3	4	5	6	7	8	9
Info on back of label	126	124	155	**195**	**172**	**169**	119	**85**	6
Label design	68	112	**179**	**218**	**241**	**200**	97	33	3
Package design	27	64	132	**192**	**248**	**223**	**201**	56	8
Price	**337**	**279**	**192**	118	86	59	45	33	2
Brand	**198**	**240**	**193**	140	138	117	88	35	2
Variety	**328**	**202**	144	90	82	161	100	41	3
Country of origin	35	98	119	119	107	127	**337**	**192**	**17**
Convenient location on shelf	9	25	28	70	70	93	**151**	**655**	**50**
*Other	23	7	9	9	7	2	13	21	**1060**

Notes: N = 1151. 1 = Most Important and 9 = Least Important. Highlighted figures represent the top three factors within each level of importance. *Notable "Other" responses included; alcohol content, recommendations from friends and experts, and environmentally friendly.

Figure 4. Millennial Preference for Wine Priorities, Ranked in Order of Preference.[53]

B. VARIABLES AND METHODS

The first question that needs to be addressed is how consumers make their wine purchasing decisions. That is, do they buy a brand that they recognize from the label; a grape varietal that they prefer; wines from a particular country or region; wines with exciting label designs, price, or something else? This information will help us understand how regulations that would affect what is inside and outside the bottle constrain or facilitate producer adaptation to consumer preferences. Thus, the dependent variable for the quantitative analysis portion of this study is consumer choice or preference in retail wine purchases in the United States (and possibly elsewhere).

The regulatory environment is driven by governments who are often influenced by major producers. Regulations in the wine industry may help preserve quality, prevent fraud, and ensure consumer safety, among other things. Government regulations may also limit a producer's ability to respond to changing demands by consumers, such as a focus on label information rather than region of production or

53. *Id.* at 35.

point scores. Thus, the independent variables used for the quantitative portion of this study are wine regulations (soft, medium, hard regulatory environment), such as:

- Agricultural regulations affecting irrigation, planting, varietals;
- Production regulations affecting blending, land use, technology; and,
- Marketing regulations affecting labeling, pricing, sales.

Finally, for the qualitative portion of this study, I interviewed a handful of vineyards and wine associations in the Old World and New World both in-person and via electronic communication. The purpose of these interviews was to assess the producer's point of view regarding their regulatory environment and to learn more about their efforts to influence that environment in the face of changing consumer preferences.

C. THEORY: INSTITUTIONAL ANALYSIS

Nobel laureate Douglass North brought institutional economics to the forefront of socio-legal analysis in the 1990s, making clear linkages between the institutional environment and the economic and social outcomes within that environment. "[Institutions] evolve incrementally, connecting the past with the present and the future; history in consequence is largely a story of institutional evolution in which the historical performance of economies can only be understood as part of a sequential story."[54] In this article, I argue that institutions—specifically, regulatory bodies—impact the ability of the wine sector to adapt to changing consumer demand.

Institutional economics as a field has matured and been extended into other important research streams, including economic geography. Often applied in international trade and economic development contexts, economic geography studies the organization of economic activities across different geographic locations.[55] This field might

54. North, *supra* note 3, at 97.

55. *See* A COMPANION TO ECONOMIC GEOGRAPHY 2–3 (Eric Sheppard & Trevor J. Barnes eds., 2000) (stating that economic geography grew out of concerns of

examine, for instance, the distinct economic activities occurring in a capitalist as compared to a socialist economic system.

This theory can also be used to examine entrepreneurial activity across different geographical environments. What drives innovation in France may be distinct from what drives innovation in Chile. To discern those differences, "theory must explain how information and resources for entrepreneurial activity come to be disproportionately massed in some places and at some times."[56] This is where institutional geography can play a role.

Rather than looking at differences between economic systems, institutional geography places its emphasis on differences between institutional environments and how those affect the economy. "The primary intent of an institutionalist approach to economic geography is to understand 'to what extent and through which means are the processes of geographically uneven capitalist economic development shaped and mediated by institutional structures.'"[57]

Max Weber explained that law has generally been interpreted as a set of rules that establish certain prohibitions and protections for individuals and firms.[58] He emphasized, however, that law can also be seen as a promoter of economic activity through the creation of certain incentives that allow more freedom in the determination of how to construct economic relationships.[59] In a sense, Weber was suggesting that laws limiting government intervention of the economy may

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geographers who wanted to describe and explain the individual economics of different places and their connections to one another).

56. THE ENTREPRENEURSHIP DYNAMIC: ORIGINS OF ENTREPRENEURSHIP AND THE EVOLUTION OF INDUSTRIES 41 (Claudia Schoonhoven & Elaine Romanelli eds., 2001).

57. Brandon Lee & Wesley Sine, *Constructing Entrepreneurial Opportunity: Environmental Movements and the Transformation of Regional Regulatory Regimes*, *in* APPLIED EVOLUTIONARY ECONOMICS AND ECONOMIC GEOGRAPHY 114 (Koen Frenken ed., 2007); Ron Martin, *Institutional Approaches in Economic Geography*, *in* A COMPANION TO ECONOMIC GEOGRAPHY 77, 79 (Eric Sheppard & Trevor Barnes eds., 2000).

58. *See* MAX WEBER, ECONOMY AND SOCIETY: AN OUTLINE OF INTERPRETATIVE SOCIOLOGY 654–55 (Guenther Roth & Claus Wittich eds., 1968) (explaining logical legal thought with respect to the economic environment).

59. *See* Sally Ewing, *Formal Justice and the Spirit of Capitalism: Max Weber's Sociology of Law*, 21 L. & SOC. REV. 487, 491 (1987) (explaining Weber's emphasis on law as a potential obstacle to economic performance).

stimulate free market self-regulation:

> To the person who finds himself actually in possession of the power to control an object or a person the legal guaranty gives a specific certainty of the durability of such power. To the person to whom something has been promised the legal guaranty gives a higher degree of certainty that the promise will be kept. These are indeed the most elementary relationships between law and economic life. But they are not the only possible ones. Law can also function in such a manner that, in sociological terms, the prevailing norms controlling the operation of the coercive apparatus have such a structure as to induce, in their turn, the emergence of certain economic relations which may be either a certain order of economic control or a certain agreement based on economic expectations. This occurs when law is expressly created for a particular purpose.[60]

Interestingly, Weber was writing this in the midst of what is known as the *Lochner* era of American economic regulation.[61] Though his focus was not the American economy per se, his analysis reflects clearly the approach to governance in the United States at the time.[62]

D. THE FREE MARKET APPROACH TO REGULATION

The *Lochner* era was a period in which the judiciary in the United States, almost without exception, struck down economic regulations enacted by Congress on the principle that the government should not interfere with an individual's freedom of contract.[63] Using the Due Process Clause of the 14th Amendment as their authority, the Supreme Court envisioned a society where government operated under a strict interpretation of the Constitution that kept it limited in scope and size.[64] At this time, the Court also supported a free market approach to

60. WEBER, *supra* note 58, at 667.

61. This era is generally associated with the case of *Lochner v. New York*, in 1905, which involved a New York state regulation limiting the maximum number of hours a baker could be forced to work. The Court struck down this regulation and hundred more after it. *See* David A. Strauss, *Why Was Lochner Wrong?*, 70 U. CHIC. L. REV. 373, 373–74 (2003).

62. *See* Edward L. Rubin, *The Supreme Court in Context: Conceptual, Pragmatic, and Institutional*, 69 VAND. L. REV. 1115, 1129 (2016) (describing Weber's assertion that the government must have a legitimate reason to intervene with individual liberties).

63. *See* Strauss, *supra* note 61, at 373–74.

64. *See generally* Lochner v. New York, 198 U.S. 45, 53–54 (1905).

business regulation; it read the freedom to contract into the U.S. Constitution in order to keep government out of the marketplace.[65]

The economic and legal approach of the *Lochner* era was almost experimental in nature; it tested the boundaries of the marketplace to determine how far they could be pushed if allowed to proceed unfettered by government interference. Economic growth during this era was strong (*see* Figure 5 below) and, despite growing inequality and joblessness, the energy of the teens and the Roaring Twenties was palpable.[66]

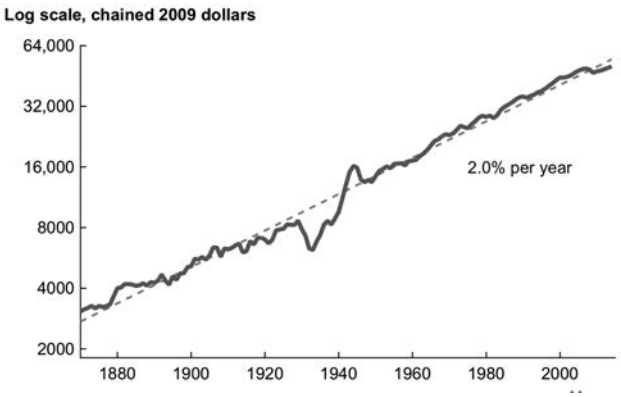

Figure 5. U.S. Economic Growth 1880–2000.[67]

With the necessary institutions—the courts in particular—behind the free market revolution, the free market controlled the direction that it wanted to take business. This period included the invention of the wireless radio (1900), the airplane (1903), the pop-up toaster (1919), Wonder bread (1921), television (1927), and penicillin (1929), among other things.[68] Would these inventions have occurred under strict

65. *See* MICHAEL J. PHILLIPS, THE LOCHNER COURT, MYTH AND REALITY: SUBSTANTIVE DUE PROCESS FROM THE 1890S TO THE 1930S 9–11 (2001).

66. *See* MICHAEL J. O'NEAL, DECADES OF AMERICAN HISTORY: AMERICA IN THE 1920S 58–60 (2006) (describing the upbeat mood and reinvestment in the economy following the end of World War I).

67. Charles I. Jones, The Facts of Economic Growth 5 (2015), https://www.hoover.org/sites/default/files/jones-facts040.pdf.

68. O'NEAL, *supra* note 66, at 82–83; *see also* Colin Shultz, *The Life and Death of Wonderbread*, SMITHSONIAN.COM (Nov. 16, 2012),

government regulations affecting safety, labor practices, and environmental controls? According to the Organization for Economic Cooperation and Development (OECD), "[r]egulation directly affects the innovative process, while innovation and technical change have significant impacts on regulation."[69] This may also be the case with respect to the wine industry.

Regulation may help or hurt business development and adaptation to changing market demands.[70] Over-regulation tends to have a negative impact on innovation, increasing the liabilities associated with risk-taking.[71] At the same time, the absence of regulation can have negative effects on innovation by allowing powerful firms to silence competition, engaging in harmful labor and environmental practices, and taking so many risks that society at large is affected. That is what happened in 1929, when the free market crashed.[72]

The stock market crash of 1929 began in London after a case of fraud exposed cracks in the trading system.[73] Panic spread across the Atlantic to the United States, where a market sell-off began the decline of the New York Stock Exchange.[74] Subsequent runs on banks by nervous savers led to shortages in the money supply and the declaration of a bank holiday by President Roosevelt.[75] With no

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https://www.smithsonianmag.com/smart-news/the-life-and-death-of-wonder-bread-129979401/; *Toaster is 100 Years Old*, TELEGRAPH (Mar. 30, 2009), https://www.telegraph.co.uk/technology/5076684/Toaster-is-100-years-old.html.

69. Org. for Econ. Cooperation and Dev. [OECD], *Regulatory Reform and Innovation*, at 7, https://www.oecd.org/sti/inno/2102514.pdf.

70. *See* Knut Blind, *The Impact of Regulation on Innovation* 2 (Nesta, Working Paper No. 12/02, 2012), https://pdfs.semanticscholar.org/5877/b0b479ac929d776c6b2212295b2e5450de22.pdf (introducing the myriad studies on the effects of regulations on innovation and finding that certain regulations, such as patent promoting regulations, can enhance innovation, whereas many others limit innovation).

71. *See id.* at 2 (explaining the general agreement in innovation studies that regulations tend to restrict innovation in the short-term).

72. *See* Harold James, *1929: The New York Stock Market Crash*, 110 REPRESENTATIONS 129, 129, 131 (2010).

73. *Id.* at 133 (describing the collapse of the Clarence Hatry conglomerate in London); *see also* Eugene N. White, *The Stock Market Boom and Crash of 1929 Revisited*, 4 J. ECON. PERSP. 67, 79 (1990).

74. *See id.*

75. William L. Silber, *Why Did FDR's Bank Holiday Succeed?* 19 (Fed. Res. Bank of NY Econ. Pol. Rev., 2009), https://www.newyorkfed.org/

substantive regulations governing cash reserves at banks, government guarantees for deposits, or Wall Street controls, the market steamed ahead prior to the crash without taking precautions. The risks of an absent government became all-too apparent by the end of 1929.[76]

As the economy worsened in the early 1930s, the Roosevelt Administration came to power in 1933 on a platform of reasserting governmental control over the free market.[77] Roosevelt established the National Recovery Administration in 1933 to restart industry, the Agricultural Adjustment Act of 1933 to provide subsidies to farmers hurt by the economic downturn,[78] the Works Progress Administration of 1935 to put unemployed Americans to work on public projects,[79] the Fair Labor Standards Act of 1938 to establish a minimum wage and ban child labor,[80] and many other initiatives meant to offset the losses the economy was suffering. Roosevelt then targeted the market itself, creating the Securities and Exchange Commission in 1934[81] to protect investors and enhance the efficiency of markets as well as the U.S. Banking Act of 1933 (Glass-Steagal)[82] that broke apart commercial and investment banking practices.[83] Roosevelt rode popular discontent with the wild swings of the free market to enact numerous regulatory programs, ending the liberal market practices of the prior decades.[84]

A significant barrier to Roosevelt's reforms remained—the courts.

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medialibrary/media/research/epr/09v15n1/0907silb.pdf.

76. *See* Comment, *Regulation of Stock Market Manipulation*, 56 YALE L.J. 509, 510 (1947) (describing the irrational optimism and speculation by traders on pre-1929 markets).

77. *See* William E. Leuchtenburg, *Franklin D. Roosevelt: Life Before the Presidency*, UNIV. OF VA. MILLER CTR., https://millercenter.org/president/fdroosevelt/life-before-the-presidency (last visited Oct. 9, 2018) (describing FDR's belief that the government had a responsibility to do something about the economy).

78. Agricultural Adjustment Act of 1933, 7 U.S.C. §§ 601–02, 48 Stat. 31 (2012).

79. Emergency Relief Appropriation Act, Pub. L. No. 74-11, ch. 48, 49 Stat. 115 (1935).

80. Fair Labor Standards Act, 29 U.S.C. § 203 (2012).

81. Securities and Exchange Act of 1934, Pub. L. No. 73-291, § 2, 48 Stat. 881.

82. Banking Act of 1933, Pub. L. No. 73-66, § 5, 48 Stat. 162.

83. *See id.* § 5, 48 Stat. 165.

84. *See* William E. Forbath, *The New Deal Constitution in Exile*, 51 DUKE L.J. 165, 165 (2001).

Though the reforms of the Roosevelt Administration were wildly popular, a conservative Supreme Court continued to adhere to the principles set forth in the *Lochner* era, protecting the free market practices that allowed the U.S. economy to soar to spectacular heights, despite its equally spectacular fall.[85] The first realization that the majority of the Court would not join with the majority of the public came in 1935, when the Court addressed a challenge to the National Recovery Act and found that it was overly restrictive on industry practices.[86] Additionally, a New York state law setting a minimum wage for women was struck down the following year upon a challenge by a Brooklyn laundry firm.[87]

Shortly thereafter, signaling a continued trend against federal government regulation of industry, the Court in 1937 struck down the Agricultural Adjustment Act, finding the Act was not a constitutionally-appropriate use of the tax and spend authority because it included coercive contracts for farmers receiving payments in exchange for reducing the size of their farms.[88] This decision infuriated Roosevelt and led him to threaten to force several older, conservative justices on the Court to retire in order to be able to replace them with liberal justices; if they chose not to retire, he threatened to add a liberal justice for every justice over the age of 70.[89] Though legislation to carry out Roosevelt's threat was drafted, it was never enacted. Conservative Justice Owen Roberts became the most important swing justice by joining the liberals on two key decisions in 1937 that changed the direction of government regulation.[90]

The first key decision was *National Labor Relations Board v. Jones & Laughlin Steel Corporation*.[91] In this case, a steel company in Pennsylvania fired ten employees after they attempted to unionize, a

85. *See id.* at 176 (describing the Court's commitment to limited government intervention in the marketplace during the early part of Roosevelt's term).

86. A.L.A. Schechter Poultry Corp. v. United States, 295 U.S. 495, 549–51 (1935).

87. Morehead v. New York, 298 U.S. 587, 617 (1936).

88. United States v. Butler, 297 U.S. 1, 77–78 (1936).

89. *See* 81 CONG. REC. 879 (1937).

90. Peter K. Enns & Patrick C. Wohlfarth, *The Swing Justice*, 75 J. POL. 1089, 1089 (2013).

91. *See generally* Nat'l Labor Relations Bd. v. Jones & Laughlin Steel Corp., 301 U.S. 1 (1937).

violation of the recently enacted National Labor Relations Act of 1935.[92] The National Labor Relations Board, the agency responsible for implementing the Act, ruled that the company had to rehire the fired employees and provide them with back pay. [93] The company argued that the Act was unconstitutional and the lower courts agreed with the company.[94] However, Justice Roberts joined the four liberal justices on the Court to uphold the Act, finding that it was a constitutional use of the Commerce Clause power.[95] That ruling was followed by a decision on a state law in Washington setting a minimum wage for female workers, which the Court upheld.[96] The *Lochner* era had finally come to an end.[97]

Is *Lochner* an example of the environment that innovators need in order to disrupt markets and carve-out their share of established sectors? Or can innovation happen in the face of strict market regulations? For instance, during the Prohibition era, breweries in the United States moved from states with more restrictive laws, to those with less restrictive laws, in order to avoid regulation and find a market.[98] Will the same happen to wine producers in the face of restrictive regulatory environments today?

Having that institutional environment in mind can help to understand how certain business activities developed. Brandon Lee and Wesley Sine discuss a number of exemplary cases, such as how distinct state laws regarding breweries during Prohibition in the United States shifted economic activities from more rigidly regulated to less rigidly regulated states.[99]

> In every capitalist nation, the old institutional frameworks are being abandoned as economic organizations, social groups, and states themselves search for new institutional configurations more congruent with the

92. *Id.* at 22, 29.
93. *Id.* at 22.
94. *Id.* at 24–25.
95. *Id.* at 47–49.
96. *See* West Coast Hotel Co. v. Parrish, 300 U.S. 379, 386–388 (1937).
97. Strauss, *supra* note 61, at 374.
98. *See* James B. Wade et al., *Normative and Resource Flow Consequences of Local Regulations in the American Brewing Industry, 1845–1918*, 43 ADMIN. SCI. Q. 905, 909 (1998).
99. *Id.*

> markedly different, and still rapidly changing, economic conditions of "post-Fordism." The institutional landscapes of capitalism are being redrawn and, rightly, geographers have become closely interested in the nature and implications of this process.[100]

V. INTRODUCTION TO THE WINE MARKET

According to the 2017 world vitivinicultural report, Europe still maintains the largest amount of land dedicated to wine grape growth with nearly 4,000 square hectares.[101] All countries outside Europe combined have only 3,500 square hectares, with a notable 17% growth in China since 2015.[102]

Wine production statistics tells a different story. French wine production between 2015 and 2016 declined 3.5% by volume.[103] Italy increased production less than 1% and Spain increased by 1.7%.[104] By contrast, wine production in the United States increased 2.2% and Chile decreased by 2.7%.[105] These numbers reflect the 9% overall reduction in world wine production in 2016.[106]

Though production has overall declined, consumption has increased overall by 0.4% across the world.[107] France continued to see declines in consumption, experiencing a 0.7% decline in 2016, along with Spain which experienced a 0.4% decline.[108] In contrast, Italy saw a strong rise of 5.3% in consumption in 2016,[109] and New World markets saw a continued increase in wine consumption. The United States experienced growth of 2.5%, and Chile saw growth of 4.8% in 2016.[110]

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100. Martin, *supra* note 57, at 78.
101. *State of the Vitiviniculture World Market* 3–4 (Organisation Internationale de la Vigne et du Vin, 2017), http://www.oiv.int/public/medias/5287/oiv-noteconjmars2017-en.pdf. Note that one hectare is equivalent to 2.5 acres.
102. *Id.* at 4–5.
103. *Id.* at 6–7.
104. *Id.*
105. *Id.*
106. *Id.*
107. *Id.* at 8, 10.
108. *Id.*
109. *Id.*
110. *Id.* at 8–10.

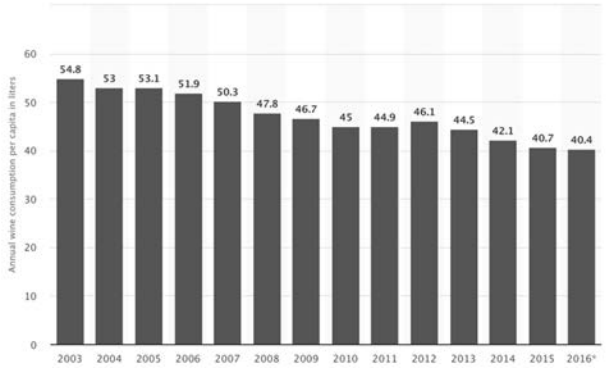

Figure 6. French Wine Consumption (2003–2016).[111]

European wines continue to comprise the bulk of wine exports, with France, Spain, and Italy constituting 55% of total wine exports by volume.[112] However, Chile and New Zealand, New World markets, continued their growth in share of volume with 8.7% and 2% increases, respectively.[113] The buyers for these exports are in (sequentially) Germany, the United Kingdom, the United States, and France.[114] China was a close fifth with a 15% increase in the volume of imports over the previous year.[115]

A. OLD WORLD WINE REGULATION

> [I]n France, wine was often anonymous, defined only by the area of origin, and mainly sold out of casks. It was not until 1650 that the glass bottle was "reinvented" and the process of corking perfected, allowing for the rise of individual estates and the distinction between qualities of wine. The growth in demand of wine during the 1700s led to a flood of corruption and falsification. The demand for inexpensive wine gave producers the incentive to stretch their supplies with cheap additives and dilutants, while wines that were shipped overseas were often in need of "reviving."[116]

111. FranceAgriMer, Annual Wine Consumption Per Capita in France from 2003 to 2016 (in liters), STATISTA, https://www.statista.com/statistics/434726/wine-consumption-in-france-per-person/ (last visited Dec. 5, 2018).
112. *State of the Vitiviniculture World Market*, *supra* note 101, at 13.
113. *Id.*
114. *Id.* at 14–15.
115. *Id.*
116. Jeffrey A. Munsie, A Brief History of the International Regulation of Wine

In the early 18th century, once it became known that winemaking was a profitable business and that there was room to make profit through the fraudulent production of wine, governments began to take steps to protect the regional varieties their vintners were producing. Regulation of wine production began in earnest in 1716 when Medici Grand Duke Cosimo II of Florence established geographical boundaries for the production and labeling of Tuscan wine.[117] This led to the establishment of the well-known wine-growing regions of Chianti and Carmignano. Once established, these regulations prohibited the labeling of wine with these dominations without actually growing the grapes in those regions.[118]

Similar demarcations were happening in Portugal in the mid-18th century under the leadership of Marquis de Pombal.[119] In addition to forbidding the labeling of wine from certain regions of Portugal without it being produced there, the Portuguese regulations also set standards for quality in order to improve the profits of higher-quality vintners.[120] This began the establishment of the Duoro Delimited Region, which firmly established Portuguese wines as high-quality goods for export.[121] Italian and French designations followed-suit shortly thereafter.[122]

The wine classification regulations of the 18th and 19th centuries,

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Production 8–9 (Mar. 2002) (unpublished manuscript) (on file with Harvard Library Office of Scholarly Communication), https://dash.harvard.edu/bitstream/handle/1/8944668/Munsie.html?sequence=2.

117. Michael Maher, Comment, *On Vino Veritas? Clarifying the Use of Geographic References on American Wine Labels*, 89 CAL. L. REV. 1881, 1884 (2001).

118. *Id.*

119. *Id.*; *see also The Marquis of Pombal*, TAYLOR FLADGATE, https://www.taylor.pt/us/what-is-port-wine/history-of-port/the-marquis-of-pombal (last visited Oct. 29, 2018) (discussing the influence of Marquis of Pombal, Portugal's prime minister, over the Port wine trade).

120. Munsie, *supra* note 116, at 9.

121. Maher, *supra* note 117, at 1884.

122. *See* Thomas Pellechia, *Academics Explain Terroir But Not Exactly the Way Wine Consumers Might Expect*, FORBES (Feb. 5, 2018), https://www.forbes.com/sites/thomaspellechia/2018/02/05/academics-explain-terroir-but-not-exactly-the-way-wine-consumers-might-expect/#433a238073eb (explaining that legal designations on wine started in Duoro and spread to areas in France and Italy like Champagne, Burgundy, and Chianti).

all of which took place in Old World countries, may have been more protectionist in nature than quality-oriented.[123] The Marquis de Pombal, for example, owned significant vineyards in the regions that were classified as high-quality wine producing regions, helping to expand his sales.[124] The same process occurred in the well-known regions of Bordeaux and Burgundy in France.[125] Today, we continue to ascribe high value to wines from these designated regions, yet from the regulatory perspective, little has changed.

The Bordeaux Wine Official Classification scheme was put in place by Emperor Napoleon III in 1855.[126] That wine classification, which remains in effect today, established five "crus"[127] for red wines and three classifications for white wines.[128] These designations specifically identified particular "chateaus" that would merit specific quality designations that would remain for the next 150 years. Sixty of the sixty-one designated chateaus of these designations is located in the Medoc region of Bordeaux.[129] Those designations were established by the *syndicat de courtiers* (Broker's Union), which was designated by the Chamber of Commerce of Bordeaux in 1855 to decide which chateaus merited which quality designation.[130] Since that time, the only significant alteration to the list was the reclassification in 1973 of

123. *See* Maher, *supra* note 117, at 1885–86 (discussing efforts to protect geographical indication of origin).

124. *See id.* at 1884; *see also The Marquis of Pombal*, *supra* note 119 (discussing how Marquis of Pombal sparked improvement in the quality of Port wine and ushered in a new era of growth and prosperity for both producers and shippers by establishing geographic limits of Port vineyards for classification purposes).

125. UNWIN, *supra* note 26, at 278.

126. *See* Thomas Matthews, *The 1855 Bordeaux Classification*, WINE SPECTATOR (Mar. 29, 2007), https://www.winespectator.com/webfeature/show/id/The-1855-Bordeaux-Classification_3491.

127. Cru is the French word for "growth," so the wines were classified as "first growth," "second growth," and so forth. French wines are classified according to growths (1–5) based upon their history and quality in the region, dating back to the 1855 Bordeaux Classification scheme. *See id.*

128. *Grands Crus Classés en 1855*, VINS DE BORDEAUX, https://www.bordeaux.com/us/Our-Terroir/Classifications/Grand-Cru-Classes-en-1855 (last visited Sept. 17, 2018) ("27 crus of the Sauternes and Barsac appellations [based on three categories of sweet whites]: 1 Premier Cru Supérieur, 11 Premiers Crus, 15 Deuxièmes Crus.").

129. *Id.*

130. *See* UNWIN, *supra* note 26, at 280.

Chateau Lafite, from a second cru to a first cru, following the acquisition and extensive lobbying of its newer owners, the Rothschilds.[131]

1. Root Lice to the Rescue

The majority of modern wine is made using a particular species of grape vines known as *vitis vinifera*.[132] Wine is the result of the careful growing of grapes, harvesting of those grapes, and fermenting of those grapes with the hope that they will ultimately produce quality wine. And like any agricultural commodity, each step in the process is susceptible to disease and can lead to the destruction of an entire crop. *Vitis* grapes are no exception—they are particularly sensitive to climate, disease, and even the phases of the moon (according to biodynamic vintners).[133] Yet no disease brings more fear to the minds of vintners than phylloxera.[134]

Just as the wine production and export markets were beginning to enjoy growth, Old World wines were ravaged by root lice. Phylloxera, which is an aphid that feeds largely on *vitis* vines and spreads easily, came to the Old World, possibly thanks to an unsuccessful American vintner in 1861.[135] Regardless of the precise cause, phylloxera ravaged Old World vines and nearly destroyed wine production on the European continent starting in the 1870s in the Midi region and

131. *See History*, LES DOMAINES BARONS DE ROTHSCHILD (LAFITE), http://www.lafite.com/en/chateau-lafite-rothschild/history/ (discussing the new management of Chateau Lafite Rothschild by Baron Eric de Rothschild).

132. *See* ANDREW G. REYNOLDS, GRAPEVINE BREEDING PROGRAMS FOR THE WINE INDUSTRY 65 (2015) (describing the *vitis* grape as the traditional wine grape).

133. Paul Gallagher, *Wine Growers are Toasting Biodynamic Methods*, INDEPENDENT (May 13, 2013, 8:45 PM), https://www.independent.co.uk/life-style/food-and-drink/features/wine-growers-are-toasting-biodynamic-methods-10248274.html.

134. *See* Laura Clark, *American Bugs Almost Wiped Out France's Wine Industry*, SMITHSONIAN.COM (Mar. 19, 2015), https://www.smithsonianmag.com/smart-news/american-bugs-almost-wiped-out-frances-wine-industry-180954619/ (describing the infestation of vineyards by an American pest).

135. Madeline Puckette, *There's Still No Cure for Grape Phylloxera*, WINE FOLLY (Mar. 18, 2013), https://winefolly.com/review/no-cure-for-grape-phylloxera/ (describing the 1861 visit to Europe of Count Agoston Haraszhy, founder of the oldest vineyard in Sonoma, whose vineyard had later died from phylloxera).

continuing to spread around the rest of France by 1900.[136] A few vineyards avoided the virus, but most had to tear-up their roots and replant to maintain any reasonable expectation of growth.[137]

Ironically, although the potential culprit was an American vintner, it was American vines that saved the European crop. Though no cure to phylloxera has ever been found, vintners discovered that American root stock was largely immune to the virus and Old World vines could be grafted onto that stock to make largely immune *vitis* crops. The replanting process began in the 1880s and was largely completed by 1920.[138]

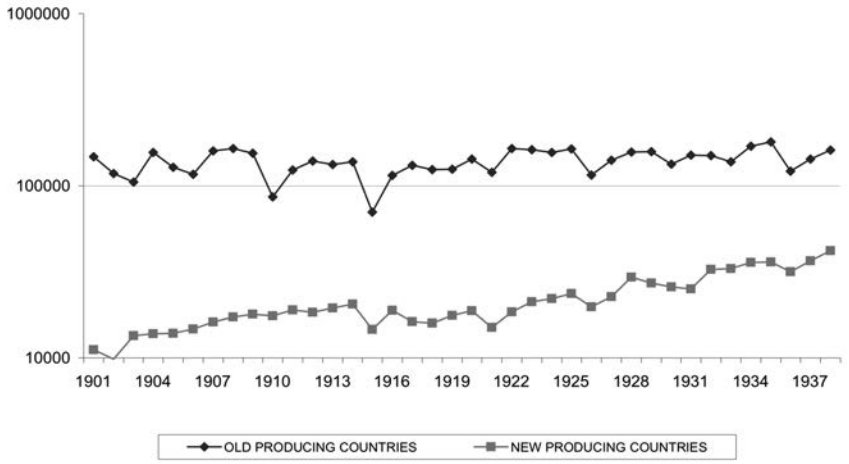

Figure 7. World Wine Production 1901–1938 in Thousands of HL.[139]

The replanting process following the phylloxera virus had a significant impact on the economics of winemaking in France. The ease of market entry in the 19th century largely disappeared as much

136. Jean-Michel Chevet et al., *France*, *in* WINE GLOBALIZATION: A NEW COMPARATIVE HISTORY 65 (Kym Anderson & Vincente Pinilla eds., 2017).

137. *See* Eric Asimov, *A Champagne True to Its Roots*, N.Y. TIMES (June 14, 2006), https://www.nytimes.com/2006/06/14/dining/14pour.html?pagewanted=all&_r=0; Clark, *supra* note 134.

138. Chevet et al., *supra* note 136, at 65.

139. Vincente Pinilla, *'Old' and 'New' Producing Countries in the International Wine Market, 1850–1938* Fig. 2 (Int'l Econ. History Conf., 2006), http://www.helsinki.fi/iehc2006/papers3/Pinilla.pdf.

more capital had to be invested in finding suitable rootstocks, grafting European stocks with American stocks, and tending to the vines to protect them from pests, among other things.[140] The area under cultivation for *vitis* grapes was reduced by about 40% between 1875 and 1910, yet the more carefully planted and blended rootstocks provided considerably larger grape yields, leading to more quantity and more quality of wine production.[141]

2. Creating Demand for French Wine

Local communities in France had the power to tax wine sales, and they did so at vastly varying rates.[142] The national average was approximately seventeen francs per hectoliter[143] of wine, but they reached as high as nineteen francs per hectoliter, which was approximately a 50% tax on the value of the wine.[144]

The French law of Dec. 21, 1897 was a progressive party effort to discourage the consumption of liquors and spirits and to encourage the consumption of wine.[145] The law, implemented in 1901, required all regions of France to lower their taxes on *boissons hygiéniques* (their designation for wine) to no more than four francs per hectoliter while raising the tax on hard liquor to 109 francs per hectoliter.[146] The effects of the tax reform are reflected in the substantial jump in wine consumption following implementation (*see* Figure 8 below). At the end of the 19th century, wine constituted 71% of French alcohol consumption (compared to 3% in the United States).[147] This number dropped to 61% in France by 2014 (compared to 15% in the United States in 2014).[148]

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140. Chevet et al., *supra* note 136, at 66.
141. *Id.* at 67.
142. Raphael Franck et al., *From Internal Taxes to National Regulation: Evidence from a French Wine Tax Reform at the Turn of the Twentieth Century*, 51 EXPL. ECON. HIST. 77, 80–81 (2014).
143. Wine is typically measured in hectoliters (HL) for commercial purposes. 100 HLs is equivalent to approximately 11 cases of 750ml bottles of wine.
144. Franck et al., *supra* note 142, at 81.
145. ADRIEN VEBER & ALEXANDRE MILLERAND, LA SUPRESSION DES OCTROIS 42–44, 81–82 (V. Giard & E. Briere eds., 1899).
146. Franck et al., *supra* note 142, at 81.
147. ANDERSON & PINILLA, *supra* note 5, at 43.
148. *Id.*

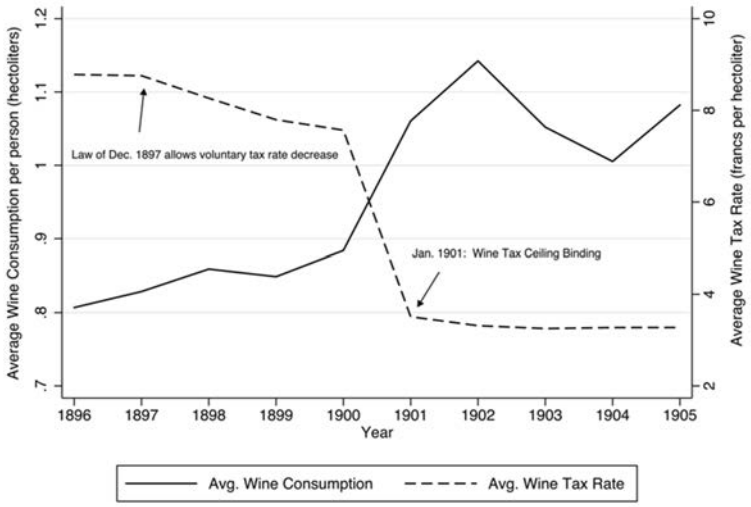

Figure 8. Tax and Consumption of Wine in France (1896–1905).[149]

Understanding the development of regulations on the wine industry necessarily starts with an examination of French laws.[150] French laws are the most rigid and comprehensive in existence today and set the boundaries for similar laws in other parts of Europe. They are also the foundation for the modern EU wine laws.[151]

> France is champion when it comes to regulating the wine industry. The French regulatory regime predates that of the European Union, which it has strongly, if somewhat heavy-handedly influenced, taking pins to safeguard the exceptionalism of the French regulatory system.[152]

The reason that France stands out for their regulatory system is largely because of the importance of wine production to its national economy.[153] In 1890, there were approximately 1.5 million producers

149. Franck et al., *supra* note 142, at 82.

150. *See* Antoine Vialard, *Regulating Quality Wines in European and French Law*, 19 N. ILL. U. L. REV. 235, 235 (1999).

151. *See id.*

152. *Id.*

153. *See* Chevet et al., *supra* note 136, at 65 (discussing the golden age of French wine production).

of wine in France, producing roughly 32 million hectoliters per year.[154] Compare that to California, which had approximately 5,000 growers at that time.[155] The industry had a relatively low cost of entry at the time, and as demand was rising, it was a logical choice for many poor farmers to enter the winemaking business.

Technology introduced around the turn of the century—including new fermentation techniques, cooling devices to preserve the grape must, and cultivated yeasts—made wine production more technical and more efficient than before.[156] This also led to the growth of larger winemaking operations that required significant capital and access to grapes. And of course, as the market was minimally regulated at the time, it created opportunities to meet rising demand with lower quality and even fraudulent wines.[157]

The drop in wine production in the Old World led to two interesting phenomena. First, the production of fraudulent wine in the Old World dramatically increased.[158] Artificial substitutes were used to create wine, such as dried grapes and grape skins soaked in water, or importing grapes from other regions to be used in French winemaking, all the while using local designations to market their "wines."[159] These practices hurt already struggling vintners by depressing prices with an oversupply of low-quality wine.[160] As these fraudulent wines continued to penetrate the markets, nearly 500,000 people marched in protest in Montpellier located in the Midi region on France in 1907,

154. James Simpson, *Old World Versus New World: The Origins of Organizational Diversity in the International Wine Industry, 1850-1914* 4–5 (Univ. Carlos III de Madrid, WP 09-01, 2009), http://www.wine-economics.org/aawe/wp-content/uploads/2013/07/28-Reims2009-Simpson.pdf.

155. *Id.* at 4.

156. *See id.* at 8 (discussing that the major breakthrough was the ability to control temperatures during winemaking).

157. *See* Chevet et al., *supra* note 136, at 71.

158. *See id.* (describing the additives and other fraudulent winemaking techniques applied to French wine in the early 20th century).

159. *See* Kelli White, *The Devastator: Phylloxera Vastatrix & The Remaking of the World of Wine*, GUILDSOMM (Dec. 30, 2017), https://www.guildsomm.com/public_content/features/articles/b/kelli-white/posts/phylloxera-vastatrix?CommentId=8b344aec-70fe-4ff4-9654-30a21fda3c54./ [hereinafter White, *The Devastator: Phylloxera Vastatrix & The Remaking of the World of Wine*].

160. *See* Chevet et al., *supra* note 136, at 72–73 (discussing the initial government interventions in the French wine industry).

demanding governmental intervention to stop fraud and protect the traditional wine market.[161]

At the time of the march, an economist noted that "[o]f all the industries of France, whether agricultural or manufacturing, the culture of the vine stands foremost . . . Hence, whatever threatens this industry assumes the proportions of a national danger."[162] In that same analysis, the author argued that weakened consumer demand for wine was as much to blame as overproduction for reduced sales.[163] The increasing influence of alternative drinks, such as English tea, German beer, mineral waters, and aperitifs, such as absinthe, began taking the place of wine as the staple drink in France.[164] From this perspective, the wine regulations that resulted from the Southern France wine crisis might be seen as protectionism rather than quality-control.

The French established the first wine labeling law in 1905.[165] This law required winemakers to indicate the region in which the wine was made prior to selling the wine in retail establishments.[166] However, the law did not require actual labeling—only designation of a region if a wine is labeled.[167] This requirement was insufficient for the protesting winemakers.

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161. *See id.* at 70.

162. Charles Gide, *The Wine Crisis in South France*, 17 ECON. J. 370, 370 (1907) (explaining that while the winemaking industry does not produce as much revenue as corn, it employs more workers than any other industry).

163. *Id.* at 374.

164. *Id.*

165. La loi de 1905 (August 1, 1905) on Suppression of fraud in respect of Products or Services in relation to Wines, Fondement de la sanction des frauds (Consumer Code, Foundation of Fraud Sanctions). *See also* Decret Titre 1st Art. 4 du 1 aout 1907 sur la repression des frauds dans la vente des marchandises et des falsifications des denrees alimentaires et des produits agricoles [Decree Title 1 Art. 4 of Sept. 4, 1907 on the Repression of Fraud in the Sale of Goods and Falsification of Food and Agricultural Products], JOURNAL OFFICIEL DE LA REPUBLIQUE FRANÇOISE [J.O.] [OFFICIAL GAZETTE OF FRANCE], Sept. 5, 1907, p. 6368 ("Dans les établissements où s'exerce le commerce de détail des vins, il doit être apposé d'une manière apparente, sur les récipients, emballages, casiers ou fûts, une inscription indiquant la dénomination sous laquelle le vin est mis en vente.") ("In the establishments where the retail of wine takes place, a notice indicating the denomination under which the wine is sold must be clearly affixed on containers, packages, boxes or drums.").

166. *Id.*

167. *Id.*

In response to the 1907 Midi revolt, the French government took two approaches to regulating wine.[168] The first was to define what "wine" is for purposes of labeling and quality control.[169] The new definition for wine included beverages made exclusively from the fermentation of fresh grapes or the juice of fresh grapes, water, alcohol and dry extracts.[170] The second was to ban additives in wine that would dilute the product or harm consumers.[171] In 1908, France modified the consumer code to more effectively fight fraud by designating certain geographic regions as protected for purposes of labeling and marketing wines produced with the names of those regions (also known as geographic indications).[172]

The Midi revolt also had the effect of creating wine cooperatives to represent the interests of the myriad small vineyards throughout France.[173] These cooperatives enabled smaller vineyards to achieve economies of scale in production and marketing and unified lobbying efforts with the government.[174]

However, as fraud in the winemaking industry continued, France established the appellation system whereby a winemaking region

168. *See* J. Harvey Smith, *Agricultural Workers and the French Wine-Growers' Revolt of 1907*, 79 PAST & PRESENT SOC. 101, 101 (1978) (describing the factors leading up to the Revolte du Midi).

169. Loi du 11 Juillet 1891 tendant a reprimer les frauds dans la vente des vins [Law of July 11, 1891 to Repress Fraud in the Sale of Wine], JOURNAL OFFICIEL DE LA REPUBLIQUE FRANCAISE [J.O.] [OFFICIAL GAZETTE OF FRANCE], July 12, 1891, p. 3473. The 1891 law banned harmful additives used in winemaking. See id. ("Constitue la falsification des denrées alimentaires . . . toute addition au vin, au vin de sucre ou de marc, au vin de raisins secs: 1. de matières colorantes quelconques; 2. de produits tels que les acides sulfuriques, nitriques, chlorhydriques, salicyliques, boriques ou analogues; 3. de chlorure de sodium au-dessus de 1 gramme par litre.") ("Falsification of foodstuffs . . . means any addition to wine, sugar or marc wine, raisins wine: 1. any coloring matter, 2. products such as sulfuric or nitric acids hydrochloric, salicylic, boric or similar; 3. sodium chloride above 1 gram per liter.").

170. *Id.*

171. *Id.*

172. Loi du 5 Aout 1908 Modification de l'Article 11 de la Loi du 1 Aout 1905 (Journal Officiel 5637) (Law of August 5, 1908 modifying Article 11 of the law of August 1, 1905. *See also* Dev Gangjee, *Relocating the Law of Geographical Indications* (2012) 99 (explaining how this modification created the initial geographic boundary system that would become the French AOC wine boundaries).

173. Chevet et al., *supra* note 136, at 70.

174. *Id.*

could petition the government to establish that area as a protection wine region.[175] If the region was so designated, only grapes grown in that area could bear the label of that region.[176] Numerous winemaking regions applied for geographical demarcation in order to boost the appeal of their wines; however, large harvests yielding low-alcohol wines diminished the value of these designations as quality-control initiatives.[177] In response, France enacted the Capus Act of 1927, which required designated areas to strictly define their borders, methods of production, and varietals to be grown.[178] The Act initially applied only to Champagne but was later expanded to all designated regions.[179]

Overproduction of wine during the 1920s in France led to lower prices and more calls for government intervention by producers.[180] Regulations were expanded following the lobbying efforts of organizations of winemakers, such as the Fédération des Syndicats de la Champagne, the Syndicat du Commerce des Vins de Champagne, and the Association Viticole Champenoise Comité Interprofessionnel du Vin de Champagne.[181] These organizations, though representing disparate and often small growers, found a common voice in France that gave them significant lobbying power.[182]

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175. *See* Loi du 6 mai 1919 relative a la protection des appellations d'origine [Law of May 6, 1919 on the Protection of Geographical Indications], reprinted by World Intellectual Property Organization, http://www.wipo.int/wipolex/en/details.jsp?id=1578.

176. Munsie, *supra* note 116, at 12.

177. Chevet et al., *supra* note 136, at 72.

178. Loi du 22 juillet 1927 tendant a completer la loi du 6 mai 1919 relative a la protection des appellations d'origine [Law of July 22, 1927 to Supplement the Law of May 6, 1919, on the Protection of Appellations of Origin], JOURNAL OFFICIEL DE LA REPUBLIQUE FRANCAISE [J.O.] [OFFICIAL GAZETTE OF FRANCE], July 27, 1927, p. 7762.

179. Chevet et al., *supra* note 136, at 72–73.

180. *See id.* at 72 (stating that fraudulent practices in wine production saturated the market).

181. These organizations were fighting to block imports of cheap Algerian wine into France. *See* Elizabeth Ann Carter, Cooperation, Competition, and Regulation: Constructing Value in French and Italian Wine Markets, 32–33 (2012) (unpublished Ph.D. dissertation, University of California, Berkeley) (explaining the increasing importance of wine merchant organizations in the regulation of the wine industry in France).

182. *See id.* at 33. Note that the organization of French vintners differed

Once again, the French government took aggressive steps to protect its producers and to maintain high market prices for their wines. The government enacted the Statut du Vin (Wine Statute) in 1931.[183] Similar to the early iterations of the Farm Bill in the United States, the Wine Statute attempted to limit production in order to curtail supply and thus raise the price for French wine.[184] The Wine Statute also shifted France's focus away from the larger vineyards that had been forming at the turn of the century and lent support to smaller, family-run estates, which remain the foundation of the French wine sector today.[185]

The Wine Statute operated through production controls and taxation.[186] The Wine Statute instructed the Minister of Agriculture to establish winemaker syndicates that would estimate market demand at the end of each harvest, by taking into account variations in weather and other factors affecting the growth that season, and to assess the level of compensation needed for wine producers.[187] With that information, wine producers would allocate certain levels of production for each producer, requiring the producers to hold any surplus above that allotted amount on the vineyard.[188] If any surplus

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significantly from those in neighboring Spain, where similar attempts were made but failed to congeal. *See* Jordi Planas, *State Intervention in Wine Markets in the Early 20th Century: Why Was it so Different in France and Spain?*, 35 J. IBERIAN & LATIN AM. ECON. HIST. 175, 197 (2016) (discussing the inability of Spanish wine producers to organize sufficiently to lobby the state for industry regulation).

183. Loi sur la viticulture et le commerce das vins [Law of July 5, 1931 on Viticulture and the Trade of Wines], JOURNAL OFFICIEL DE LA REPUBLIQUE FRANCAISE [J.O.] [OFFICIAL GAZETTE OF FRANCE], July 5, 1931, p. 7282.

184. *See* Carter, *supra* note 177 (unpublished dissertation at 32–33) (describing the goals of the 1935 wine statute).

185. *See* Law of July 11, 1891 to Repress Fraud in the Sale of Wine (Fr.); Carter, *supra* note 177 (unpublished dissertation at 34) (explaining that one objective of the wine statute was "to provide *a prix social* (a wine price that was sufficient for a family to retain its land)").

186. *See* Carter, *supra* note 181 (unpublished dissertation at 34).

187. *See* ADAM D. SHEINGATE, THE RISE OF THE AGRICULTURAL WELFARE STATE: INSTITUTIONS AND INTEREST GROUP POWER IN THE UNITED STATES, FRANCE, AND JAPAN 96 (2001) (explaining the increasing power of the wine producer syndicates in France).

188. Guilia Meloni & Johan Swinnen, *The Rise and Fall of the World's Largest Wine Exporter—And Its Institutional Legacy*, 9 J. WINE ECON. 3, 21 (2014) [hereinafter Meloni & Swinnen, *The Rise and Fall of the World's Largest Wine Exporter—And Its Institutional Legacy*].

exceeded a certain level, the producers would be required to distill the excess and sell it as lower-priced table wine. Significant taxes were levied on producers with routine surpluses.[189] In addition, new vines could not be planted on vineyards over ten hectares (twenty-five acres) in most areas of France.[190]

When a consumer selects a French wine today, they may look for the *Appellations d'Origine Contrôlées* or AOC designation. This is commonly taken as a mark of the quality of the wine.[191] AOC designation has also been historically used by the French government to maintain control over the production of wine throughout the country. The law of July 30, 1935, known as the *Statut Viticole*, first established the AOC system that separates quality wine from ordinary table wine.[192]

The 1935 *Statut Viticole* focused on reducing wine supply in order to improve quality and limit competition, principally from Algeria, which had doubled its wine exports to France between 1920 and 1930.[193] The law set out rules for geographic boundaries (the AOC system discussed above) as well as the grape varietals that those areas would be restricted to, which inspired the European Common Wine Policy discussed below.[194] The law also restricted large yields, required excess production to be stored and not placed into the stream of commerce, required significant excess production to be distilled into vinegar or table wine, required the "grubbing-up" of "overproductive" vines, and banned the planting of new vines.[195]

During World War II, when Germany occupied France, the *Statut Viticole* was repealed.[196] However, excess production after the War led the French government to reintroduce the rules in 1953 under a new

189. *Id.*
190. *Id.*
191. *See* PIERRE SPAHNI, THE COMMON WINE POLICE AND PRICE STABILIZATION 14 (1988).
192. *Id.*
193. *See* Meloni & Swinnen, *The Rise and Fall of the World's Largest Wine Exporter—And Its Institutional Legacy*, *supra* note 188, at 21 (noting that Algeria, a French colony at the time, was relied upon to replenish the supply of wine in France while vineyards recovered from the phylloxera virus).
194. *Id.* at 18.
195. *Id.* at 28.
196. *Id.* at 23 (explaining how the *Statut Viticole* was repealed in 1942).

name—the *Code du Vin*.[197] The *Code du Vin* was enacted in order to encourage producers to reduce yields in order to focus on higher-quality and to limit supply.[198] The *Code du Vin* provided producers with subsidies for uprooting highly-productive existing vines and banned new plantings.[199] The effect of this law was to substantially reduce the area of production (at a rate of 200,000 hectares per decade), especially in regions that produced lower-quality "ordinary" wine, such as the Midi.[200]

The AOC law of July 6, 1966 stipulates that a wine label in France "constitutes a trade name from specified origin: the name of a country, region or locality used by a product that originates from it. The product's quality or character is determined by its geographic origins, either because of natural or human factors."[201] The law set forth the modern AOC system in place today in France, which differentiates three qualities of wine:

- *Appellation d'Origine Contrôlée* (AC or AOC), *Vin de Pays* (VdP), and *Vin de Table* (VdT). These designations are controlled by the Minister of Agriculture, under the auspices of the Institut National de l'Origine et de la Qualité. Appellation d'Origine Contrôlée sits at the top of the French quality hierarchy and is the equivalent of the EU designation PDO.

- *Vin de Pays* (VdP) is a more lenient classification that corresponds with the PGI category in the EU.

- *Vin de Table* was used for wines that did not meet the quality standards for VdP or AOC wines. This is the least restrictive category and the production, as well as the quality, has faltered in

197. CODE DU VIN [C. VIN] [WINE CODE] of 1953 (Fr.) (repealed 2003); *see also* Meloni & Swinnen, *The Rise and Fall of the World's Largest Wine Exporter—And Its Institutional Legacy*, *supra* note 188, at 23.

198. *See* C. VIN of 1953, *supra* note 197.

199. Chevet et al., *supra* note 136, at 74; *see also* Meloni & Swinnen, *The Rise and Fall of the World's Largest Wine Exporter—And Its Institutional Legacy*, *supra* note 188, at 23 n.46.

200. Chevet et al., *supra* note 136, at 74.

201. CODE DE LA CONSOMMATION [C. CONSOMM.] [CODE OF CONSUMPTION] art. L115-1 of 1966 (Fr.) (repealed 2016).

recent decades.[202]

The law also allowed VdP wines to label their bottles with the type of grape rather than the region from which they are made.[203] If a VdP wine lists a varietal on the label, the wine must be comprised of at least 85% of that varietal. If two varietals are listed, they must comprise 100% of the wine.[204]

As part of the law, the Comité National des Appellations d'Origine (CNAO) was established to identify specific vineyards and appellations that would be included within the AOC system.[205] Classifying vineyards and appellations is a slow process. Today, only 40% of French wines are classified as AOC wines.[206]

The progression of wine regulation in France starting with Napoleon's Bordeaux classification of 1855 through the AOC law of 1966 coincides with the economic development of France and a changing culture of wine consumption. As French consumers enjoyed higher incomes after World War II, their preference for wine shifted from high-alcohol, low-quality and low-price wines to lighter, higher-quality, and often more-expensive wines.[207] At the same time, the number of French regions under an appellation designation—an indicator of quality production—increased, reaching 52% by the 1990s.[208]

By 1970, France witnessed a significant shift in wine demand and production. Fine wines continued to be in high demand on export markets;[209] however, exports from New World countries, especially bulk exports of more economical wines, were increasing at a far faster pace.[210] This shift continued through the 1990s and 2000s as the

202. *See* Leve, *supra* note 36.
203. *See* C. CONSOMM. of 1966, *supra* note 201, art. L115-1.
204. Commission Regulation 607/2009, 2009 O.J. (L 193) 60, 78–79 (EC).
205. *See generally* C. CONSOMM. of 1966, *supra* note 201.
206. *See* Chevet et al., *supra* note 136, at 75 (stating that 40% of French wines were classified as AOC wines by 1990).
207. *See id.* (explaining that the shift in French wine preferences occurred after the 1950s).
208. *Id.*
209. *See id.* at 78; *see also* Bartlett & Mcara, *supra* note 6, at 11 (explaining that the trend of high demand in export markets for fine wines continued into the 2000s).
210. Chevet et al., *supra* note 136, at 78.

fragmented French wine production system failed to keep up with the innovative and adaptive New World producers.[211]

As this shift in demand and production was occurring, France was transitioning into the new European Common Wine Policy (CWP), which began to be developed with a 1962 regulation meant to track wine production among members of the EU.[212] France already had strict production regulations and procedures in place to monitor that production; however, other wine-producing countries such as Italy and Germany did not. This led to friction between France and Italy, the two principal wine producing countries in the EU, as they had different expectations for what regulation of the wine sector should look like.[213] The CWP was officially established in 1970 as a compromise between those two countries.[214] Taking its lead from the rigid French wine regulation regime, the EU set out minimum quality characteristics and production limitations for European wine production.[215] The EU also adopted France's appellation approach by dividing wines into geographical indication (GI) regions and non-GI regions. If wine was produced within a GI-region, it was subject to the rules set forth by the country (e.g., France). But, if it was produced outside of a GI-region, the wine was subject to strict EU rules for quality, production technique, labeling, and so forth.[216] I will discuss these regulations in more detail in the following section.

211. *Id.* at 78–79 (explaining how the family farm model in France became a bulwark in responsive adaptation to shifting worldwide demand).

212. Council Regulation 24/1962, 1962 O.J. (L 989) 123, 123 (EEC).

213. Meloni & Swinnen, *The Political Economy of European Wine Regulations*, *supra* note 39, at 25.

214. *See* Council Regulation 816/70, 1970 O.J. (L 99) 1, 236 (EC); *see also* Meloni & Swinnen, *The Political Economy of European Wine Regulations*, *supra* note 39, at 25 (explaining that the final 1970 regulation was a compromise between France and Italy).

215. Meloni & Swinnen, *The Political Economy of European Wine Regulations*, *supra* note 39, at 7–8, 10.

216. *Id.* at 8–9.

B. FRANCE AND EUROPEAN UNION WINE REGULATIONS

> The European wine [sector] is lagging behind its competitors, such as Australia, New Zealand and the USA, for not being able to efficiently translate research into business innovation and sustainability.[217]

As I noted above, European regulations of the wine sector were largely inspired by the regulatory approach taken by France.[218] Because EU regulations sit atop domestic legislation, countries always have the option to enact more stringent regulatory regimes if they wish, so long as the domestic legislation does not conflict with the goals of the EU regulations.[219] Today, French laws remain more stringent than EU regulations.[220]

Italy, which produced more wine for export than France at the time of the new EU wine regulations, had a vastly more liberal approach to wine regulation.[221] Though incentives were available to distill wine surpluses, no requirements to do so were in place in Italy.[222] However, French producers pushed the EU for a more interventionist approach to the wine market, especially to keep out competition from exporting countries such as Algeria.[223] Ultimately, the EU regulation of wine markets was a balance between the French interventionist approach and the Italian free market approach.[224]

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217. *CEEV Position on EU Wine Research and Development*, COMITÉ EUROPÉEN DES ENTERPRISES VINS, http://www.ceev.eu/images/documents/ENVI/CEEV_position_paper_on_Research_and_Development_in_the_wine_sector.pdf (last visited Sept. 25, 2018).

218. *See* Meloni & Swinnen, *The Political Economy of European Wine Regulations*, *supra* note 39, at 9 (explaining that EU geographic indication rules for wine were based upon France's appellation of origin regime).

219. *See* Edward T. Swaine, *Subsidiarity and Self-Interest: Federalism at the European Court of Justice*, 41 HARV. INT'L L.J. 1, 48–50 (2000) (explaining the concept of "subsidiarity" in European Union law, which is similar to federalism in the United States).

220. Vialard, *supra* note 150, at 238 (explaining the flexibility that EU member states have in interpreting EU wine regulations, allowing them to take a stricter approach to national regulation).

221. Meloni & Swinnen, *The Political Economy of European Wine Regulations*, *supra* note 39, at 24.

222. *See id.*

223. *Id.* at 24–25.

224. *Id.* at 25.

One objective of the EU[225] is to establish common policies for member states that maintain consistent practices for trade. This includes agriculture, which is regulated by Article 39's Common Agriculture Policy (CAP).[226] Article 39 of the CAP focused on the relationship between agriculture and national economies.[227] Its stated goals were:

> (a) to increase agricultural productivity by promoting technical progress and by ensuring the rational development of agricultural production and the optimum utilisation of the factors of production, in particular labour;
>
> (b) thus to ensure a fair standard of living for the agricultural community, in particular by increasing the individual earnings of persons engaged in agriculture;
>
> (c) to stabilise markets;
>
> (d) to assure the availability of supplies;
>
> (e) to ensure that supplies reach consumers at reasonable prices.[228]

The CWP, which was implemented in 1970, was established to create a single European wine market, improve the quality of wine, protect winemakers against fluctuating market prices, and protect European winemakers.[229] The CWP established an interventionist system that would allow measures to be taken to maintain a minimum market price for wine. This included subsidies for the storage of surplus wine, as well as uniform rules for the classification of vine varieties, labeling practices, and production practices, among other

225. Treaty Establishing the European Economic Community, Mar. 25, 1957, 298 U.N.T.S. 11; Treaty Establishing the European Atomic Energy Community, Mar. 25, 1957, 298 U.N.T.S. 167; Treaty Instituting the European Coal and Steel Community, Apr. 18, 1951, 261 U.N.T.S. 140.

226. *See* ECON. RESEARCH SERV., U.S. DEP'T OF AGRIC., WRS-99-2, THE EUROPEAN UNION'S COMMON AGRICULTURAL POLICY: PRESSURES FOR CHANGE 2, 9–10 (1999) (discussing the EU's approach to nationalizing agricultural policy).

227. Consolidated Versions of the Treaty on European Union and the Treaty on the Functioning of the European Union, June 7, 2016, 2016 O.J. (C 302) 1, 62–63 (EU).

228. *Id.*

229. *See* ANTONIO NIEDERBACHER, WINE IN THE EUROPEAN COMMUNITY 41–42 (2d ed. 1988).

things.[230] The new regulations categorized wines into segments based upon quality and required that any wines not meeting these quality standards be distilled.[231] The regulations also provided price supports to winemakers, ultimately leading to extensive oversupply of wine.[232]

The unintended result of the CWP was not a reduction in wine production but rather a surplus. Low-quality Italian producers flooded markets with cheap wines, undercutting French producers and leading to a "wine war" in 1974 when French producers blocked the import of Italian wines into France.[233]

Subsequent reforms attempted to address the EU wine surplus, including a regulation banning new vine plantings,[234] subsidies for the conversion of wine crops into other crops,[235] and compulsory distillation in the face of severe market imbalance.[236] The EU expended roughly $1 billion euros annually on their price support program for wine producers,[237] which was initially being spent mostly on distillation but ultimately funded grubbing-up efforts by EU producers.[238]

In 1962, the EU established the wine Common Market Organization (CMO) to enhance the competitiveness of the European wine industry.[239] The CMO consolidated many of the earlier reforms and tried to assist vineyards in responding to changing market demand by addressing every aspect of the wine supply chain, from designation and presentation to labeling to geographic indications.[240] And though

230. Meloni & Swinnen, T*he Political Economy of European Wine Regulations*, *supra* note 39, at 7–8, 10.
231. *Id.* at 25, n.75, n.77.
232. *Id.* at 26.
233. *Id.* at 26–27.
234. *See* Council Regulation 1163/76, 1976 O.J. (L 135) 34, 34 (EEC).
235. *See id.*; *see also* Meloni & Swinnen, *The Political Economy of European Wine Regulations*, *supra* note 39, at 27.
236. Council Regulation 822/87, 1987 O.J. (L 84) 1, 3 (EEC).
237. Bradley J. Rickard et al., *Trade Liberalization in the Presence of Domestic Regulations: Public Policies Applied to EU and U.S. Wine Markets*, 50 APPLIED ECON. 2028, 2031 (2018).
238. *Id.*
239. Council Regulation 1493/1999, 1999 O.J. (L 179) 1, 1 (EU).
240. Vicki Waye, *Wine Market Reform: A Tale of Two Markets and Their Legal Interaction*, 29 U. QUEENSLAND L.J. 211, 223 (2010) (describing the complexity of the 1999 CMO reform).

the regulatory policy initially treaded lightly into domestic wine markets, the CMO grew increasingly interventionist in subsequent decades. The phases of development for the CMO included:

> - . . . very open, with no curbs on plantings and very few market regulation instruments (the aim being to confront the annual variations in production).
>
> - [. . . increasing restraint on] freedom on plantings, coupling it with the virtually guaranteed sales, thus generating serious structural surplus.
>
> - From 1976–1978 [the CMO] became very interventionist with the ban on planting and the obligation to distil the surplus.
>
> - Towards the end of the 80s financial incentives for giving up vineyards were reinforced.[241]

Additional reforms proposed in 2006 and implemented in the years following attempted to liberalize the restrictive wine controls in place for at least the past century.[242] These reforms included the elimination of subsidies given to producers to store their surplus wine production, changed the distillation policy from mandatory to voluntary, and simplified labeling laws to make European wines more competitive.[243] Implementation of these reforms met with significant pushback from producers that benefitted from the tight market restrictions;[244] however, declining demand for European wine in the face of rapidly expanding New World producers, along with increasing imports of foreign wine into the EU made the reforms necessary.

Further reforms in 2008 and 2013 attempted to improve the reputation of European wines in international markets in order to better align supply and demand.[245] The most significant reforms occurred in 2008, when the EU attempted to streamline wine

241. *The Reforms of the EU Wine Market*, EUR. COMM'N: AGRIC. RURAL DEV., https://ec.europa.eu/agriculture/wine/reforms_en (last visited Sept. 25, 2018).
242. *See* Meloni & Swinnen, *The Political Economy of European Wine Regulations*, *supra* note 39, at 12.
243. *See id.*
244. *See id.* at 13.
245. *The Reforms of the EU Wine Market*, *supra* note 241.

regulations by making policies clearer and simpler to understand.[246] These regulations required EU member states to designate the wine grape varieties that may be planted, but limit the varieties to the *vitis vinifera* family.[247] Interestingly, small wine producing states (fewer than 50,000 HL per year) are exempt from the classification rule.[248] The 2013 reforms enhanced the 2008 reforms in an effort to make European wine regulation more streamlined and efficient.[249] However, many of these reforms were insufficient as surplus wine was still driving down prices, consumption rates across Europe were declining, and imported foreign wine was increasing.[250]

1. EU Deference to National Policies

The EU understood that certain countries already had extensive wine sectors and wine regulations, so it left considerable room for national legislation of domestic wine markets.[251] For instance, while the EU allowed all *vitis vinifera* grapes to be classified as wine, the French government enhanced its AOC system to differentiate different degrees of quality in wines.[252] In 1973, the French government created the *vins de pays* (country wine) designation, which is equivalent to the EU classification, Indication Géographique Protégée (IGP).[253] This was a French geographical designation and in order to be labeled *vins de pays* a wine could not be blended, had to be produced in limited qualities from certain types of grapes, had to have a minimum alcohol level, and had to undergo a test with a tasting panel.[254] This *vins de pays* designation was the first of many rigid regulations that France imposed that would establish France as the only country to exceed the

246. *See generally* Council Regulation 479/2008, *supra* note 36.
247. *Id.* at 15, art. 24(1)(a).
248. *Id.* at 15, art. 24(2).
249. Council Regulation 1306/2013, 2013 O.J. (L 347) 549, 549 (EU); Council Regulation 1308/2013, 2013 O.J. (L 347) 671, 671 (EU).
250. *See* Waye, *supra* note 240, at 223.
251. *See id.* at 16, art. 28 (allowing for stricter rules by member states).
252. *See* Meloni & Swinnen, *The Political Economy of European Wine Regulations*, *supra* note 39, at 17–18 (explaining the French AOC classification system for quality wines).
253. Munsie, *supra* note 116, at 29.
254. *Id.*

requirements of the EU.[255]

The EU rules also require that if a country selects a region as a designated geographical indication due to the special characteristics of that region, then at least 85% of the grapes used for the production of wine labeled as from that region must come from that region.[256] The geographical origins may be protected by the EU through an application process outlined in the regulations.[257] These protections are strictly enforced against any wine producer who might try to circumvent the rules.[258]

French law differs from the rules set forth in the EU. In France, if a producer in a protected region (e.g., Bordeaux) labels their wine as coming from that region, 100% of the grapes must come from that region.[259] However, if the wine is being exported outside of France, the vintner need only comply with the EU requirement that 85% of the grapes come from that region.[260] The label itself is not required to list the grape varietals used—only the region.[261] The French rules are strictly enforced, with around fifty prosecutions for violations annually and aggressive promotion of these protections in international agreements.[262]

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255. Vialard, *supra* note 150, at 238.

256. Council Regulation 479/2008, *supra* note 36, at 17–18, art. 34(1)(b)(ii).

257. *See id.* at 18–20, arts. 35–41.

258. Munsie, *supra* note 116, at 18 ("Those producers that were angered by such fraudulence eventually began airing their complaints in the courts of offending countries. For instance, in 1958, French authorities brought an action in the British criminal courts to prevent a British importer from importing wine from Spain labeled 'Spanish Champagne.' The defendants were found not guilty, however, because the British government did not recognize the French AOC system at the time. Only a year later, a group of French champagne companies issued a writ against the same British importer in the Chancery Division of the High Court. This time, the judge recognized the plaintiff's right to the protection of the 'champagne' name and the possibility of consumer deception, and granted an injunction against the importer from selling any products using the term 'champagne.' This case established a strong precedent and sent waves through the international markets.").

259. LEO A. LOUBERE, THE WINE REVOLUTION IN FRANCE: THE TWENTIETH CENTURY 108 (1990).

260. *See id.* (explaining the method that exporters used to evade the 100% requirement, allowing them to use 25% of wine not grown in the area).

261. *See* Meloni & Swinnen, *The Political Economy of European Wine Regulations*, *supra* note 39, at 248–50.

262. *See* Munsie, *supra* note 116, at 32.

The French wine designation system resulted from French *Code de la Consommation*,[263] which today includes four classifications.[264] These are, ranked in ascending order of quality:

- Vin de Table (VDT)—table wines, which are prohibited from listing on the label the grapes, vintage, region, appellation, or production techniques used. All wine that is not classified in one of the three tiers below falls into the VDT category.

- Vins Sans Indication Geographique (VSIG)—the new designation for table wines, which are likewise only allowed to note that the wine is from France.

- Vins de Pays (VDP)—these wines are permitted to include the region in which the grapes come from in France as well as the producers name, but nothing else.

. . .

- Appellation d'Origine Controlee (AOC)—very strict regulations regarding the production and labeling of wine. Accounts for 53% if French vineyards across 450 distinct AOCs.[265]

The most recent reforms of European wine law occurred in 2013, when the EU issued several regulations aimed at harmonizing and streamlining the provisions of the earlier laws.[266] Most of the 2013 law simply reinforces what was already in place under the 2008 law; however, relevant for our discussion is the new focus on innovation in the 2013 law.

Prior to 2008, non-GI region wines would have to indicate where they were produced, but could not include information about the grape variety or harvest year.[267] This made it difficult for European producers to compete with New World producers that were including

263. *See* C. CONSOMM. of 1966, *supra* note 201, art. L115-1.

264. A fifth category, *Vin Delimite de Qualite Superieure* (*VDQS*) is only used today for about 1% of all wines and was a transition between table wines and higher quality wines. *See* Leve, *supra* note 36.

265. *See* Leve, *supra* note 36.

266. Council Regulation 1306/2013, *supra* note 249, at 549 (repealing Council Regulations 352/78, 165/94, 2799/98, 841/2000, 1290/2005, and 485/2008).

267. *See* Waye, *supra* note 240, at 224.

much more detailed information on their labels, which appealed to a new generation of wine consumers.[268] Thus, in 2008, the EU adopted new rules for non-GI region producers allowing them to include the grape variety and harvest year on their labels.[269]

As a major wine-producing country with nearly every region growing *vitis* grapes, France has traditionally had a major stake in the development of a consumer market for wine and continues to remain one of the largest and most important wine-producing countries in the world.[270] Yet as we have seen, increasing demand and low barriers to market entry as a producer paved the way to questionable production practices. A series of statutes and regulations, beginning in 1855 and culminating in the EU regulations of today, have carried on the tradition of controlling supplies and setting high standards for labeling in order to maintain France, and other Old World countries, at the top of wine production markets. In the next Part, I will delve into the regulatory environments of Chile and the United States, as well as modern France, to better understand the different paths taken to regulate the wine sector.

VI. THE NEW WORLD: U.S. AND CHILEAN WINE REGULATION

As has been explained, Europe has held a comfortable position as the global center for high-quality, highly-rated wines for centuries. The fairy-tale images of lavender fields and ancient castles alongside meticulously pruned grape vines not only projected the image of quality wine, but also affirmed the idea that Old World wine was untouchable by foreign competitors. That image was smashed in the middle of the 20th century.

A. THE UNITED STATES: A REGULATORY PENDULUM

Wine production in the United States began in the colonies as European migrants arrived with grape vines to plant in Virginia, New

268. *Id.*

269. *See* Council Regulation 479/2008, *supra* note 36, at 22, art. 50.

270. *See French Wines - A Short Guide: An Introduction to the Wines and Wine Regions of France*, ABOUT-FRANCE.COM, https://about-france.com/wines.htm (last visited Nov. 3, 2018).

York, and Pennsylvania.[271] However, the *vitis vinifera* varietals, which are highly susceptible to disease, fared poorly on the East Coast.[272] Success came when a group of missionaries, including Roman Catholic priest Father Junipero Serra, had wine grapes planted at his missions around California starting in 1769.[273]

The U.S. wine market has struggled since its inception, largely because the cost of wine was much higher than stronger liquors and thus faced low demand.[274] Imported European wine was cheaper and considered to be of better quality for American consumers.[275] It was, as noted above, the infestation of European vineyards with phylloxera in the 1880s that gave the U.S. industry an edge over the Old World.[276] Wine production in California increased dramatically from 0.22ml in 1850 to 14.4ml in 1870.[277] Rising demand, new tariffs on imported European wine, and expanded production of Californian wines led to strong growth in the U.S. wine sector into the 20th century.[278]

Clashes between conservative and liberal approaches to alcohol consumption came into play alongside this rapidly increasing wine market in the mid-late 1800s.[279] This led to the question of whether, and how, alcohol consumption could be regulated. In 1847, the U.S. Supreme Court quipped that the states were free to regulate wine

271. *See* Talia Baiocchi, *Vintage America: A Brief History of Wine in America*, EATER (Jan. 3, 2011, 9:20 AM), https://www.eater.com/2011/1/3/6703783/vintage-america-a-brief-history-of-wine-in-america.

272. *See* Julian M. Alston et al., *United States*, *in* WINE GLOBALIZATION: A NEW COMPARATIVE HISTORY 410–11 (Kym Anderson et al. eds., 2018) (tracing the history of wine production in the United States).

273. *See* Axel Borg, *A Short History on Wine Making in California*, U.C. DAVIS LIBRARY (July 5, 2016), https://www.library.ucdavis.edu/news/short-history-wine-making-california/.

274. *See* Alston et al., *supra* note 272, at 413.

275. *See id.* (showing an increase in volume of imported wine into the United States despite the price difference between whiskey and wine).

276. *Id.* at 414 (explaining how California's ascension to statehood in 1850 gave Californian wine producers an opportunity to directly compete with European imports).

277. *Id.* at 415.

278. *See id.* at 416–17.

279. *See id.* at 420–21 (discussing the formation of the California Wine Association which later banded with California grape growers to "preach the gospel of the grape and the temperate use of wine" in opposition to the national movement toward Prohibition).

imports and consumption or to outright prohibit it if they chose to do so.[280] Some years later, Congress enacted the Wilson Act, which stipulated that alcohol transported from one state to another was subject to the laws of the state in which it was sold.[281] The Wilson Act was an attempt to ensure compliance with the principle of non-discrimination among states and to re-affirm states' rights to regulate alcohol.[282] The effort to regulate alcohol was further strengthened in 1913 by the Webb-Kenyon Act, which prohibited the shipment into a state of any alcohol intended to be used in violation of that state's laws.[283] These laws established a balance of power between federal and state regulation of alcohol, a balance that was upset by the 18th Amendment.[284]

Prohibition in the United States took effect on January 17, 1920, one year after ratification of the 18th Amendment to the Constitution.[285] During the fourteen years in which prohibition was in place, commercial wine production and sale was prohibited;[286] however, contrary to popular belief, consumption and home production of alcohol was not forbidden by federal law.[287] Thus, grape production and sale to home vintners continued during the prohibition period, though enhancements to the commercial wine producing

280. Thurlow v. Massachusetts, 46 U.S. 504, 577 (1847) ("[I]f any State deems the retail and internal traffic in ardent spirits injurious to its citizens, and calculated to produce idleness, vice, or debauchery, I see nothing in the constitution of the United States to prevent it from regulating and restraining the traffic, or from prohibiting it altogether, if it thinks proper.").

281. 27 U.S.C. § 121 (2012) (formerly 26 Stat. 313 (1890)).

282. *See id.* (stating that liquors transported into the state shall not be exempted from the laws of that state).

283. *See* 27 U.S.C. § 122 (2012) (formerly 49 Stat. 877 (1935)).

284. *See* Todd Zywicki & Asheesh Agarwal, *Wine, Commerce, and the Constitution*, 1 N.Y.U. J. L. & LIBERTY 609, 621 (2005) (suggesting that the 18th Amendment upset the balance of power established between federal and state governments in the regulation of alcohol).

285. U.S. CONST. amend. XVIII.

286. *Id.* amend. XVIII, § 1 ("[T]he manufacture, sale, or transportation of intoxicating liquors within, the importation thereof into, or the exportation thereof from the United States and all territory subject to the jurisdiction thereof for beverage purposes is hereby prohibited.").

287. Note that states were permitted to pass more restrictive laws that would have banned such activity. *See* Zywicki & Agarwal, *supra* note 284, at 621.

industry largely ceased.[288] Prohibition was repealed as part of a number of liberal reforms enacted under President Franklin Delano Roosevelt in 1933.[289]

Though the United States had not yet been a major player on international wine markets prior to the Prohibition era, the fourteen-year drought made it even less likely to become one. That is, until the Baby Boomers discovered their love for wine.[290] Per capita annual consumption of wine in the United States increased from 5.7 liters in 1960 to 8.1 liters in 1970 and 12 liters in 1980.[291] U.S. production of wine accompanied this growth with an increase from 640ml in 1960 to 1,060ml in 1970 and 1,780ml in 1980.[292] French winemakers criticized the poor quality of the American products; however, as noted above, the Judgement of Paris in 1976 led them to reevaluate their criticisms as American wines beat out French wines in a blind taste test.[293]

Unlike in France, the U.S. regulatory system came late to the party in terms of wine production. Following the end of Prohibition, the U.S. Congress enacted the Federal Alcohol Administration Act, which established the Federal Alcohol Administration (FAA) within the Department of Treasury.[294] The FAA had the responsibility for establishing labeling requirements for alcoholic beverages to protect consumers against false or misleading information.[295] Eventually the FAA became the Bureau of Alcohol, Tobacco and Firearms (ATF), an independent Bureau within the U.S. Department of Treasury.[296] The U.S. Food and Drug Administration also sought to enact regulations in the wine industry in the 1970s; however, following a federal court

288. Alston et al., *supra* note 272, at 421 (explaining how prohibition set back advancements in the commercial wine industry even after its repeal in 1933).

289. U.S. CONST. amend. XXI.

290. *See* Alston et al., *supra* note 272, at 427 (describing the incredible increase in wine consumption in the United States during the 1970s).

291. *Id.*

292. *Id.*

293. *Id.*

294. Federal Alcohol Administration Act, Pub. L. No. 74-401, 49 Stat. 977 (1935) (codified at 27 U.S.C. §§ 201–19a (2012)).

295. *Id.* § 5(e).

296. This transfer became effective in 1972. *See ATF History Timeline*, ATF, https://www.atf.gov/our-history/atf-history-timeline (last visited Sept. 17, 2018).

decision in 1976, the ATF was designated as the proper regulatory agency for the industry.[297]

The ATF wasted no time in issuing regulations on alcoholic beverages. In 1980, it issued a labeling regulation requiring all alcoholic beverage producers to list ingredients on bottles, among other requirements.[298] This labeling regulation, however, was short-lived as President Reagan pushed for deregulation,[299] leading ATF to retract their regulation the following year.[300]

Regulation of the wine industry in the United States, unlike in France, is designed to protect producers against fraud and to protect consumers with transparency in labeling, not necessarily on the basis of quality designations.[301] The ATF's 1978 Comprehensive Appellation of Origin Labeling Scheme was the first major regulation that sought to facilitate any type of production regulation.[302] This regulation was a far-cry from the rigid French appellation system.[303] In the United States, a region could petition the ATF to be designated an American Viticultural Area (AVA), which could then be displayed on the wine label so long as at least 85% of the grapes derived from that region.[304] This scheme is still in place today.[305]

In the United States, a wine is permitted to include an appellation, such as California or Washington, so long as at least 75% of the grapes used in the production of the wine come from the designated region

297. *See* Brown-Forman Distillers Corp. v. Mathews, 435 F. Supp. 5, 17 (W.D. Ky. 1976) (reasoning that it was Congress' intention to place exclusive jurisdiction in ATF with respect to regulating the labeling of alcoholic beverages).

298. Labeling and Advertising of Wine, Distilled Spirits, and Malt Beverages, 45 Fed. Reg. 40,538, 40,540 (June 13, 1980).

299. *See* Exec. Order No. 12,291, 46 Fed. Reg. 13,193, 13,196 (Feb. 17, 1981) (directing federal agencies to conduct cost-benefit analyses of their rules to reduce the effects of overly-burdensome rules on industry).

300. *See generally* Rescission of Ingredient Labeling Regulations for Wine, Distilled Spirits, and Malt Beverages, 46 Fed. Reg. 55093–101 (Nov. 6, 1981).

301. *See* Maher, *supra* note 117, 1887–89.

302. *See* Labeling and Advertising of Wine: Appellation of Origin, Grape-Type Designations, Etc., 43 Fed. Reg. 37,671–72 (Aug. 23, 1978) (codified at 27 C.F.R. § 4.23(a)).

303. *See supra* section V(A)(2).

304. *See* Maher, *supra* note 117, at 1892 (explaining the outlines of the comprehensive labeling scheme, which is still in place today).

305. *See id.* at 1891–92.

and 100% of the wine is finished within that region.[306] If the wine label indicates a designated AVA, such as Napa Valley or Paso Robles, 85% of the grapes must have come from that designated region.[307] One significant difference between U.S. and French wine regulation, however, is that in the United States, regions are not ranked by quality—they are merely used to inform consumers where their product originated.[308]

B. CHILE: THE NEWCOMER IN THE SOUTH

Chile is a New World wine-producing country with a particularly unique climate and geography, which arequite conducive to the growth of *vitis* grapes.[309] The geography of the country allows it to operate as if it were an island, with the Pacific Ocean on its Western border, the Andean Mountains on its Eastern border, the Atacama Desert—the world's driest—to the North and Antarctica to the South.[310] Chile's independent approach to governance and economic success has often been attributed to this geography.[311] But today, its geography is also the reason for its rapid rise as a successful wine producing country.

Like in the United States, it was Catholic missionaries in Chile that established the country's first vineyards.[312] In Chile, the establishment of the wine industry is thought to have occurred around 1548 A.D. in the town of Concepción.[313] Vineyards were soon planted by conquistadores from Spain and Chile leveraged its ideal grape-growing climate to quickly become a competitor in international wine

306. Appellations of Origin, 27 C.F.R. § 4.25(b)(i) (2012).
307. *Id.* § 4.25(e)(3)(i–ii).
308. *See id.* § 4.25(a) (explaining how the appellation of origin is based on various geographic delineations only).
309. Karina Fernandez-Stark & Penny Bamber, *Wine Industry in Chile*, *in* SERVICES IN GLOBAL VALUE CHAINS: MANUFACTURING-RELATED SERVICES 364–65 (2015).
310. *See* Tim Knowles & Liz Sharples, *The History and Development of Chilean Wines*, 14 INT'L J. WINE MARKETING 7, 9–11 (2002).
311. *See id.* at 7–8 (inferring that Chile's experimental nursery containing a wide range of plants allowed isolation from the phylloxera louse that cause widespread damage in Europe).
312. *Id.* at 7.
313. *Id.*

markets.[314] However, the quality of Chilean wine was considered poor, so Chilean wine was treated as an economical table wine that would not pose a threat to quality French wines.[315] This reputation would stay with Chile through the end of the 20th century.[316]

The quality of Chilean wine began to improve in the mid-19th century when European immigrants brought rootstock from France to be planted in Chile, just before the infestation of phylloxera took down most French vineyards.[317] Later that century, French winemaking technology was imported and Chilean wines began to appear at international wine trade shows.[318]

Chilean wine regulation through the early 20th century was largely insignificant.[319] Rapid growth produced economic benefits for Chile. Unlike in France, where thousands of smallholder farmers banded together to protect their quality by restricting competition, Chilean vineyards were controlled by a handful of elites with enough government influence to keep regulations to a minimum.[320] By the 1930s, Chile was producing 200 million liters annually and farming 100,000 hectares (roughly 250,000 acres) for wine.[321]

Chile's rapid production of wine changed in 1938 with passage of the Second Organic Law on Alcohol.[322] This law prohibited the

314. *Id.* at 7–8 (describing the rapid growth in Chilean wine production during the 18th century).

315. *Id.* at 7 (explaining that while Chilean export wine competed with European producers, it did so with "inexpensive but drinkable wines").

316. *See* William K. Crowley, *Chile's Wine Industry: Historical Character and Changing Geography*, 26 Y.B. CONF. LATIN AMERICANIST GEOGRAPHERS 87, 90–91 (2000) (describing the prevalence of the *Pais* grape transplanted from Spanish vineyards and yielding poor quality wines).

317. Knowles & Sharples, *supra* note 310, at 8.

318. *Id.*

319. *See id.* (noting that Chile repealed a law that restricted wine trade, resulting in less regulation of the wine industry).

320. Jeanette Kripas, The Relationship of Globalization in the Development and Success of the Chilean Wine Industry 27 (Jan. 1, 2008) (unpublished dissertation) ("Chile's aristocratic and mercantile elite, went to Europe on the Grand Tour and brought back contemporary fashions and tastes. Among these tastes was an enjoyment of high-quality wines such as Bordeaux. The importation of these newly acquired high quality European wines proved to be very costly.").

321. Crowley, *supra* note 316, at 88.

322. *See id.* at 90.

planting of new vineyards and limited production of wine to sixty liters per capita. When the law was passed in 1938, Chile's population was 4.2 million people, which would have placed Chile's limit at 252 million liters—a limit that the Chilean wine sector had already exceeded.[323] However, as Chile's population grew, the wine production limit did as well, allowing Chilean vineyards to remain buoyant.[324] However, it was the Chilean government's trade policy that ultimately curtailed wine sector growth.[325]

Like most of Latin America, Chile pursued a policy of import substitution industrialization (ISI) during the mid-20th century.[326] ISI is a theory that encourages governments to raise import barriers in order to protect domestic industry, thereby directing limited resources to improvements in domestic production and competitiveness.[327] This dark period in Chilean wine history meant that new technology in winemaking could not be imported, investments in the wine sector withered, and innovation stagnated.[328]

General Augusto Pinochet led a military coup d'état against the reigning socialist government of Salvador Allende in 1973, displacing him and implementing a harsh, militaristic regime in Chile. While in power, Pinochet also implemented a number of social and economic reforms in Chile, most aimed at a libertarian free market approach to governance.[329] Among these reforms was Law 261 of 1973,[330] which lifted vineyard planting restrictions, and Law 2753 of 1978,[331] which

323. *See id.*

324. *See id.* at 90–91 (explaining that the Chilean population grew to 7.1 million in 1960 and 10 million by 1970).

325. *See id.* at 90 (noting that the Chilean government introduced the Second Organic Law of Alcohol to constrict the growth of the wine industry).

326. Werner Baer, *Import Substitution and Industrialization in Latin America: Experiences and Interpretations*, 7 LATIN AM. RES. REV. 95, 95–96 (1972).

327. *See* Crowley, *supra* note 316, at 91 (discussing Chile's adoption of ISI policies in 1938); *see also* Baer, *supra* note 326, at 96–97 (explaining the specific policies adopted by most of Latin America during the 1930s and 1940s).

328. *See* Crowley, *supra* note 316, at 91 (discussing how the import substitution policies made imports, innovation, and investment difficult).

329. *See id.* at 94 (linking the rise of General Pinochet with the abandonment of the old import substitution model).

330. Law No. 261, Deroga Las Disposiciones Legales Que Indica, Que Imponen Las Prohibiciones Que Señala, Enero 07, 1974, DIARIO OFICIAL [D.O.] (Chile).

331. Law No. 2753, Modifica La Ley 17.105, Sobre Alcoholes, Bebidas

lifted the production limits that had been imposed in 1938. Thus, began the *laissez-faire* Chilean Wine Revolution.[332]

The Chilean wine revolution began as a realization that unrestricted markets were not enough to acquire a competitive edge. In fact, from the liberalization of wine laws in 1973 through the late-1980s, domestic wine consumption dropped precipitously from fifty liters per capita in 1982 to fifteen liters per capita by 1990.[333] Many vineyards were uprooted or converted to other industries, and by the mid-1990s, Chile was left with roughly half the number of vineyards it had started with earlier that century.[334] The vineyards that remained shifted their sales to markets outside of Chile, leveraging the newly liberalized trade policies put in place under Pinochet, which allowed the producers to more easily access foreign markets.[335]

Chile's largest wine producer at the time (and in 2018 the third largest wine producer in the world), Concha y Toro, made significant investments in technology to advance Chilean wine productivity and quality.[336] Chilean vineyards uprooted their País and other low-quality grapes to plant premium varieties, such as Cabernet and Chardonnay.[337] Chile's geography allowed for easy access to ports for export and technology allowed for vineyards to be planted within a few kilometers of the Pacific coast.[338] These geographic advantages, coupled with the *laissez-faire* regulatory approach to the Chilean wine sector and focus on exports, enabled Chile to quickly recover from its

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Alcoholicas y Vinagres, Junio 26, 1979, DIARIO OFICIAL [D.O.] (Chile).

332. *See* Crowley, *supra* note 316, at 94 (explaining that the new economic policies implemented following Pinochet's rise to power led to a "wide-open, free-enterprise economic model").

333. *See id.* at 94–95 (explaining that marketing efforts by the beer industry took hold in Chile at this time).

334. *Id.* at 95.

335. *Id.* ("The loss of some of the government's protection with the ascent of Pinochet in 1973 and the drop in consumption after 1982 were the principal stimuli for change.").

336. *Id.*

337. *See id.* at 96 (explaining that vineyards focused their efforts on premium wine production, with Cabernet Sauvignon as the most widely planted grape in Chile, and the traditional *País* the second most planted).

338. The Garces Silva vineyard, which I visited as part of this research project, grows Pinot Noir and Chardonnay grapes that benefit from the cool coastal breeze of the Pacific, only 11 kilometers from the sea.

dark days and become one of the principal exporters of quality wine worldwide.

Chilean wine regulation today, much like in the United States, emphasizes a free market approach and only intervenes in the interest of consumer protection.[339] In Chile, the Agricultural & Livestock Service (SAG) is responsible for ensuring the authenticity and safety of wines and other alcoholic beverages.[340] The SAG is also responsible for designating appellations for wine production and labeling and for ensuring compliance with quality production regulations.[341]

Chile set forth basic standards for the production and labeling of wine with Law No. 18.455 of 1985.[342] This law also sets forth rules for how wines can be labeled. The law is enforced through Decree No. 78 of 1986, which establishes regulations for the vinification, preservation, and refinement of wine products, including limits on toxins in the wines.[343] The SAG carries out the enforcement of these regulations through random inspections at Chilean vineyards and routine inspections of imported wines.[344]

Appellation designations came a bit later in Chile. These were established through the joint efforts of the SAG and domestic wineries and codified in Agricultural Decree No. 464 of 1994.[345] This decree established five wine-growing regions (e.g., Central Valley), fifteen sub-regions (e.g., Maipo Valey), eight zones (e.g., Leyda Valley) and

339. *See* Knowles & Sharples, *supra* note 310, at 6 (stating that since Chile became a free market economy "the Chilean wine industry has grown and developed substantially").

340. *See* Law No. 18455, Fija Normas Sobre Produccion, Elaboracion y Comercializacion de Alcoholes Etilicos, Bebidas Alcoholicas y Vinagres, Octubre 31, 1985, DIARIO OFICIAL [D.O.] (Chile) (listing the Agricultural & Livestock Service's obligations).

341. *See id.* (proclaiming that the Agricultural & Livestock Service will ensure compliance with the law).

342. *See generally id.*

343. Decrete No. 78, Reglamenta Ley N° 18.455 Que Fija Normas Sobre Produccion, Elaboracion y Comercializacion de Alcoholes Etilicos, Bebidas Alcoholicas y Vinagres, Julió 31, 1986, DIARIO OFICIAL [D.O.] (Chile).

344. *See id.*

345. Decreto No. 22, De 1994, Que Establece Zonificación Vitícola y Fija Normas Para Su Utilización, Abril 24, 2018, DIARIO OFICIAL [D.O.] (Chile) (updating Decree No. 464); Agricultural Decree No. 464, Winegrowing Zoning and Appellations of Origin, May 26, 1995, DIARIO OFICIAL [D.O.] (Chile).

eighty-one areas (e.g., La Estrella).[346] Requesting designation as a protected region, like in the United States, is relatively straightforward in Chile.[347] The decree also set forth how those appellations can be identified on wine labels:

- If a wine label carries the name of a place, such as a region, sub-region, or appellation, 75% of the grapes must come from that place.
- When a wine label carries the name of a grape variety, the wine must be made from at least 75% of that grape variety.
- If a wine label carries a vintage, 75% of the wine must come from that vintage. [348]

In addition to appellation labels, the decree also establishes rules for labeling wine as "Estate Bottled."[349] This label, along with other similar expressions, may be used when the wine comes from grapes grown on lands owned or rented by the vineyard and located in the same geographical area as the denomination of origin.[350] No other rules, such as differentiations between "reserve" and "grand reserve" were established by this decree, leaving it to Chilean vintners to decide which of their wines merit such labels.[351]

We cannot leave the discussion of Chilean wine regulation without mentioning Chile's unique grape—Carmenère. Chile's focus on protecting its agriculture can be directly linked to its wine sector. While phylloxera was ravaging Europe in the 1860s, one of the varietals to be wiped out was Carmenère—one of the six official

346. Agricultural Decree No. 464 art.1.

347. Jazmín Muñoz & Sofía Boza, *Protection by Origin in Chile and the European Markets: The Case of the Wine Sector* 9 (World Trade Inst., Working Paper No. 14/2017, 2017) ("EU legislation on the GI of wine is much more complex than that of Chile.").

348. Decreto No. 7, Modifica Decreto Nº 464, De 1994, Del Ministerio De Agricultura, Que Establece Zonificación Vitícola y Fija Normas Para Su Utilización, Marzo 10, 2015, DIARIO OFICIAL [D.O.] (Chile).

349. *Chile*, TTB: INT'L AFFAIRS DIV., (Feb. 9, 2017), https://www.ttb.gov/itd/chile.shtml.

350. *Id.*

351. *See* Muñoz & Boza, *supra* note 347, at 4, 14–15.

grapes of Bordeaux.[352] The Carmenère grape is unique because of its bell pepper essence and spicy mouthfeel.[353] It was traditionally used as a blending grape by French vintners.[354] Chilean vintners had for years produced a merlot wine that critics found very unique, with a spice unlike all other merlots.[355]

In 1994, a French ampelographer[356] was invited to lecture in Chile and toured a vineyard with a new merlot planting.[357] He noticed that the vine leaves were not actually merlot leaves at all. He suspected that they were in fact the long-lost Carmenère grapes from Bordeaux. DNA testing confirmed his suspicion.[358] Phylloxera never reached Chile, largely due to its geographic barriers, allowing its agriculture to grow largely untouched by foreign plagues and viruses.[359]

The open regulatory system in Chile and its focus on free markets have opened the door to significant innovations in wine production that have given Chilean wine producers a significant edge in adapting to and capturing consumer market share around the world. To best understand how Chile and other New World producers have identified and responded to shifting consumer preferences, we look next at the evolution of the wine drinking patron.

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352. The others are Cabernet Sauvignon, Merlot, Cabernet Franc, Petit Verdot, and Malbec. *See* White, *The Devastator: Phylloxera Vastatrix & The Remaking of the World of Wine*, *supra* note 159.

353. *See* Michael Austin, *11 Wines Introduce You to Chilean Carmenere's Inky Charms*, CHI. TRIB. (Dec. 19, 2017, 9:55 AM), https://www.chicagotribune.com/dining/sc-food-chilean-carmenere-wine-1222-story.html.

354. *See Learn About Carmenère Wine*, VINEPAIR, https://vinepair.com/wine-101/learn-carmenere-wine/ (last visited Nov. 2, 2018).

355. *See Diversity*, WINES OF CHILE, http://www.winesofchile.org/en/varietal/carmenère (last visited Sept. 7, 2018) (explaining that the Carmenère grapes that had disappeared from Europe "reappeared between the Merlot vines in Chile").

356. An ampelographer is an expert in the study and classification of cultivated wines.

357. Julien Boulard, *Exclusive Interview: The Man Who 'Discovered' Carmenère*, DECANTER CHINA (June 21, 2016), https://www.decanterchina.com/en/knowledge/people/vineyard-experts/exclusive-interview-the-man-who-discovered-carmenere.

358. *See* Jason Wilson, *Celebrating Carmenere, Chile's Incomparable Red Wine*, WASH. POST (Aug. 3, 2010), http://www.washingtonpost.com/wp-dyn/content/article/2010/08/03/AR2010080304935.html?noredirect=on.

359. White, *The Devastator: Phylloxera Vastatrix & The Remaking of the World of Wine*, *supra* note 159 ("[Phylloxera] is effectively nonexistent in Chile. . . .").

VII. EVOLVING CONSUMER PREFERENCES

Wine is a good with high elasticity, meaning that consumers can easily replace it with substitute goods, such as beer or liquor.[360] Within the wine sector itself, global competition is fierce, giving consumers the ultimate control in deciding winners and losers in wine markets.[361] Over time, consumer preferences change, and with the advent of social media and instant access to product reviews and analyses, competitive goods such as wine face the fate of finicky and demanding consumers. Accordingly, it is important for wine producers to have the regulatory flexibility to adapt to changing demands and to apply innovative production and marketing techniques to capture market share.

Declining market demand for quality European wines is driven by increasing competition in global markets, but also by shifting consumer demand for a new kind of wine.[362] With American millennials being regarded as the most abundant consumers of wine for many generations, their preferences are driving demand in global wine markets.[363] To better understand those preferences, I conducted a survey of 500 wine drinkers across the the United States to determine what drives their wine purchasing decisions. The results, displayed below, reflect what has been anecdotally known for years—consumers want exciting wines that are approachable and understandable and that fit within their budget, regardless of appellation or wine critic ratings.

360. *Economics A-Z Terms Beginning with E*, ECONOMIST, https://www.economist.com/economics-a-to-z/e#node-21529523 (last visited Nov. 2, 2018) (defining cross-elasticity as how the demand for one good changes when the price of another good also changes).

361. *See* Andrea Morrison & Roberta Rabellotti, *Gradual Catch Up and Enduring Leadership in the Global Wine Industry* 1–4 (AAWE Working Paper No. 148, 2014), http://www.wine-economics.org/aawe/wp-content/uploads/2014/02/AAWE_WP148.pdf.

362. *See id.*

363. *See* Chris Perez, *Millennials are Ruining the American Wine Industry*, N.Y. POST (Jan. 21, 2016, 4:18 PM), https://nypost.com/2016/01/21/millennials-are-ruining-the-american-wine-industry/ (discussing how aging Baby Boomers are reducing their wine drinking habits while millennials are becoming the predominant wine drinking demographic group, causing them to drive the market).

VIII. SURVEY RESULTS

As part of this research, I developed and distributed an online survey with sixteen questions about wine preferences. The survey was distributed to 500 U.S.-based wine consumers and all responded to the questions. I categorized the responses by generational age group to assess whether the largest wine-consuming generation—millennials—have distinct preferences from their elders. Some of the key results from that survey are displayed below.

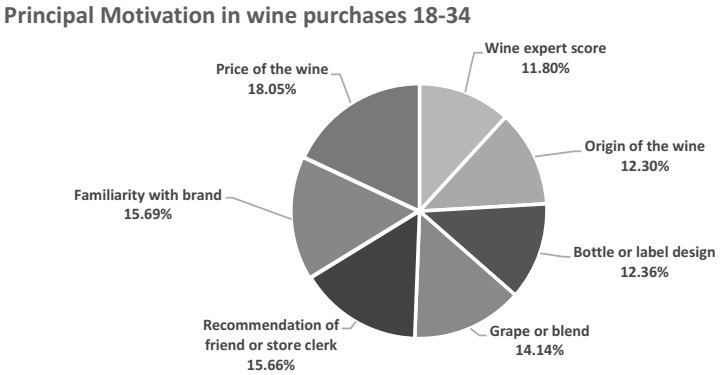

Figure 9. Consumer Wine Purchase Motivation (Ages 18–34).

Figure 10. Consumer Wine Purchase Motivation (Ages 35–50).

Figure 11. Consumer Wine Purchase Motivation (Ages 50–69).

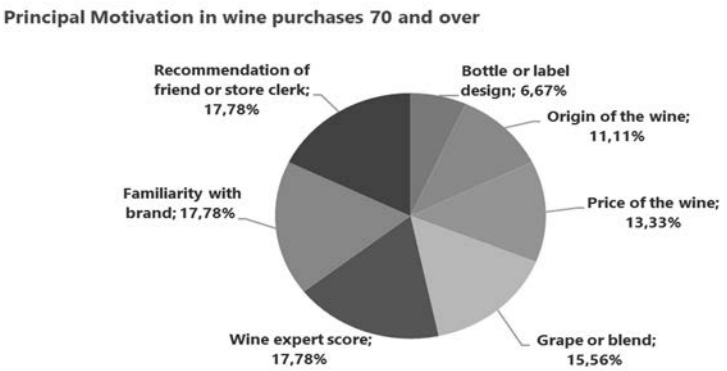

Figure 12. Consumer Wine Purchase Motivation (Ages 70+).

The results of this survey show that consumer wine purchase preferences in the United States—the largest worldwide consuming market—are changing. Older generations continue to look to the *terroir* from which the wine originated or the quality ratings of traditional wine critics, whereas younger generations have more interest in the reputation of the producer, the story behind the wine, and the amount of information available on the wine label (*see* Figures 9-12 above). This suggests that what is outside the bottle—reputation, story, label—is becoming more relevant in purchase decisions than what is inside the bottle—taste, quality, profile.

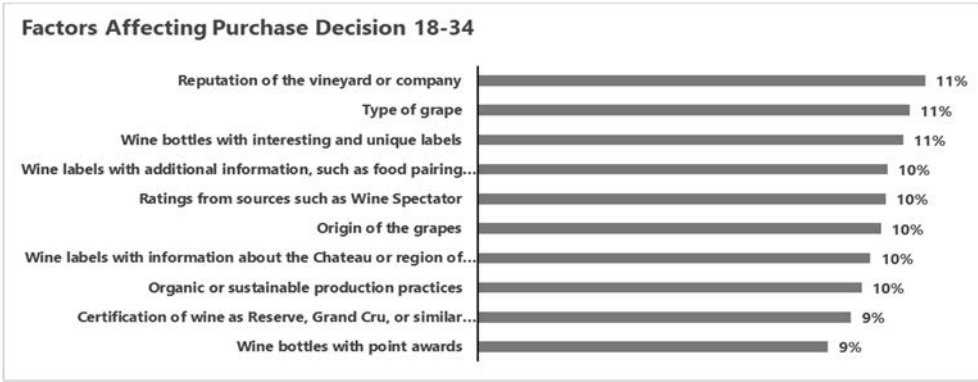

Figure 13. Ranking of Factors Affecting Wine Purchases (Ages 18–34).

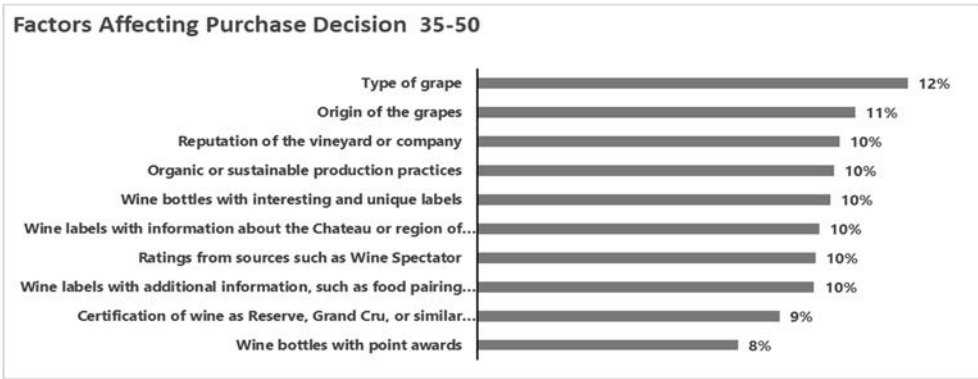

Figure 14. Ranking of Factors Affecting Wine Purchases (Ages 35–50).

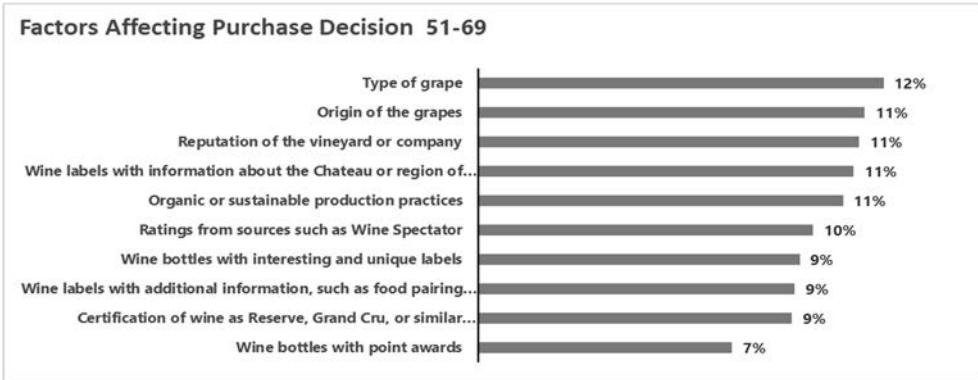

Figure 15. Ranking of Factors Affecting Wine Purchases (Ages 51–69).

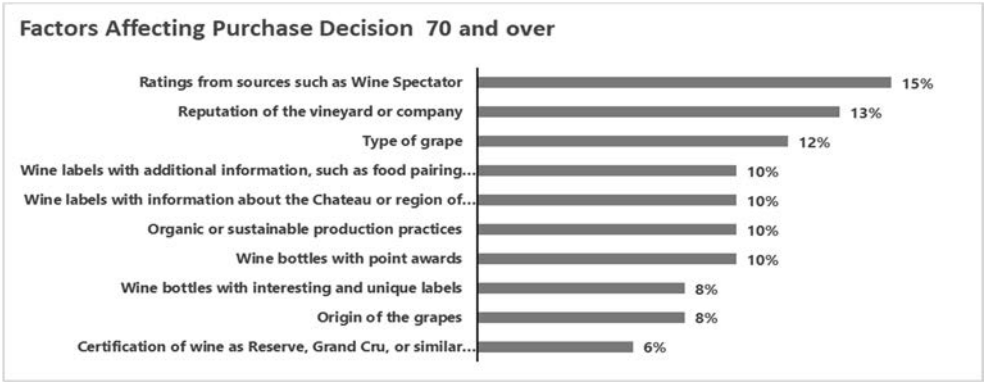

Figure 16. Ranking of Factors Affecting Wine Purchases (Ages 70+).

In addition to these findings, I also found that younger wine consumers place significant emphasis on the wine bottle and label design in making purchase decisions (12% among millennials) as compared to older generations (6% of consumers over 70 years old) (*see* Figures 13–16 above).Consistent with the results discussed above, younger generations place less significance on the scores of ratings companies (12% among millennials) than do older generations (18% among consumers over 70 years old). The consumers in between these two age groups show a consistent trend toward the millennial preference profile.

Given what appears to be a trend in wine consumption away from traditional quality rankings, region, and *terroir*, we need to know if wine producers are responding to these shifting trends. The recent shift away from Old World wines and toward New World wines anecdotally suggests that some wine producers are better at responding to these shifts than others. In the final Part of this paper, I will briefly highlight four key regulatory factors that may have held back Old World producers from responding to shifting demand—*terroir*, irrigation, fermentation, and labeling.

IX. SIGNIFICANT MARKET DIFFERENCES FROM ROOT TO BOTTLE

Now that I have presented the broad outlines of the regulatory regimes in place in France, the United States, and Chile for wine production and labeling, I will spend a few moments identifying the

key distinctions in those markets that would affect consumer demand. Though there are many similarities across these three countries—including appellation designations and consumer protection—there are significant differences as well. I have identified four to address here, noting that there are likely more subtle distinctions at play as well: 1) planting rights; 2) grapevine irrigation; 3) wine fermentation; and 4) wine bottle packaging and labeling.

A. TERROIR AND THE GEOGRAPHY OF WINE

The French are famous for coining the term *terroir* to describe the quality of the soil, climate, and historic qualities of the area in which *vitis vinifera* vines are planted.[364] In many ways, this is what originally led to the creation of the appellation system—an effort to protect the areas in which wine grapes grow best. However, this restrictive designation had a market-limiting effect by prohibiting large vineyards that stretch across designated appellations or even the planting of vines outside traditional appellations.[365] Decades of such policies have led to a concentration of small vineyards within delimited areas in France, each producing only designated wines from certain grapes permitted to be grown in that appellation.[366] In response to a declining market share for European wines, the EU enacted new planting rules that took effect in 2016 to allow grape vines to be planted anywhere, even though they will only be appellation-designated if they are planted in a specific region.[367]

Both Chile and the United States have adopted appellation designations similar to France.[368] However, there have not been historic prohibitions on the planting of grapevines outside those demarcated areas. Rather, vineyards have sprouted up in Texas, Kentucky, and many other states in the United States,[369] as well as in

364. *See Terroir and Technology*, ECONOMIST (Dec. 16, 1999), https://www.economist.com/special-report/1999/12/16/terroir-and-technology.

365. *See id.*

366. *See id.*

367. *See* European Commission Press Release IP/15/4752, Commission Publishes New Vine Planting Rules Aimed at Giving EU Sector More Flexibility To Meet Growing World Demand (Apr. 9, 2015).

368. *See* Ryan Snyder, *Wine Regulations: New World Countries*, WINEGEEKS, http://www.winegeeks.com/articles/107 (last visited Sept. 13, 2018).

369. *About the United States Wine and Grape Industry*, WINE AM.,

harsh climates such as the desert region of Elqui in Northern Chile and the rain-soaked *bio bio* region in the far south of Chile.[370] Like in France, only wine grown in designated regions can be labeled with the specific appellation; however, as noted in the survey results, such designations have minimal impact on consumer purchase preferences.

B. THE STRUGGLE FOR WATER

Irrigation refers to the provision of water to the grapevines during the growing season (summer months).[371] Historically, irrigation was strictly forbidden in Old World countries, leaving only natural rainfall or underground aquifers as the only options for the vines.[372] Grapevines are hearty survivors in low-water climates.[373] Forcing the vines to dig deep in search of water led to heartier vines and often more concentrated grapes, which many vintners associated with higher-quality wines.[374] Accordingly, protections of this process were sought and delivered by Old World governments. This changed in France only in the last decade, with a law passed in 2007 that permitted drip irrigation from June 15–August 15 in non-appellation vineyards.[375] This rule initially only permitted irrigation in non-

http://wineamerica.org/policy/by-the-numbers (last visited Sept. 7, 2018) (explaining that while 90% of all U.S. wine comes from California, many other states participate in winemaking as well).

370. *See The Real Frontier of Chilean Wine*, WINE FOLLY (July 28, 2014), https://winefolly.com/review/real-frontier-chilean-wine (describing the geographic regions of Chilean wine plantings).

371. *See Irrigation in Viticulture*, INT'L COMM'N ON IRRIGATION AND DRAINAGE, http://www.icid.org/irri_viticul.html (last visited Nov. 1, 2018) (defining and generally explaining irrigation methods in viticulture).

372. *See Terroir and Technology*, *supra* note 364 (explaining the myriad regulations limiting irrigation and other technology in French wine production).

373. *See* Rachel Becker, *Grapevines Can Survive With Little Water, But Wine Glasses Could Still Go Dry During Droughts*, VERGE (Jan. 31, 2018, 5:04 PM), https://www.theverge.com/2018/1/31/16956850/wine-grapes-vines-california-bordeaux-drought-science-viticulture.

374. *But see* Lisa Barriger, *Global Warming & Viticulture: The Ability of Wine Regions to Adapt in Differing Regulatory Schemes*, 19 PENN. ST. ENVTL. L. REV. 311, 329 (2011) (explaining that the connection between non-irrigation and quality grapes may be a myth).

375. *See* Décret 2006-1527 du 2 décembre 2006 relatif à l'irrigation des vignobles aptes à la production de vins à appellation d'origne [Decree 2006-1527 of December 2, 2006 on the Irrigation of Vineyards Suitable for the Production of Wines with a Designation of Origin], JOURNAL OFFICIEL DE LA REPUBLIQUE FRANÇAISE [J.O.]

appellation vineyards. In 2008, this rule was expanded to designated AOC regions during a drought as an emergency exception, but the permitted irrigation was limited and carefully monitored.[376]

By contrast, Chile and the United States apply no regulations on the use of irrigation in wine production.[377] Instead, irrigation is seen as a tool to be manipulated for the effective production of wine grapes. In the United States, some vineyards have implemented probes that detect moisture levels in soil in real time and activate smart irrigation systems.[378] Chile follows similar technology-driven irrigation strategies to manage their soil moisture.[379] The Concha y Toro Innovation Center in Chile helps to foster innovation in a number of production techniques, including irrigation.[380] Still, some Chilean producers continue to use drought farming to try and develop higher-quality concentrated wine grapes.[381]

C. INSIDE THE BARREL: FERMENTATION AND AGING

The fermentation process, which converts grape juice to alcoholic wine, is a natural process usually started with the introduction of yeast into the juice, which feeds on the sugar in the juice and coverts it to

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[OFFICIAL GAZETTE OF FRANCE], Dec. 2, 2006, p. 18338; *see also* Jancis Robinson, *Irrigation Now Official in France*, JANCIS ROBINSON (Apr. 11, 2007), https://www.jancisrobinson.com/articles/irrigation-now-official-in-france.

376. *See INAO Signals Relaxation of AOC Irrigation Law*, HARPERS WINE & SPIRIT TRADE NEWS (July 23, 2008), https://harpers.co.uk/news/fullstory.php/aid/1598/INAO_SIGNALS_RELAXATION_OF_AOC_IRRIGATION_LAW.html.

377. *See* OZ CLARKE, NEW WINE ATLAS 25 (2002).

378. *See Climate & Seasons*, WASH. STATE WINE, https://www.washingtonwine.org/wine/facts-and-stats/climate-and-seasons (last visited Sept. 7, 2018) (discussing the use of "Neutron Probes" and other devices used to monitor soil moisture levels); *see also Vinduino & eVineyard Bring Smart Irrigation to New Level*, ADVISOR WINE INDUS. NETWORK (July 31, 2017), https://www.wineindustryadvisor.com/2017/07/31/vinduino-evineyard-smart-irrigation-new-level (discussing the use of software to monitor soil moisture levels).

379. *See* Fernandez-Stark & Bamber, *supra* note 309, at 364, 366.

380. *See* VIÑA CONCHA Y TORO, CENTER FOR RESEARCH AND INNOVATION 4, http://www.cii.conchaytoro.com/about-us/ (last visited Sept. 7, 2018).

381. *See, e.g.*, Michaela Trimble, *This Chilean Valley is a Red Wine Paradise*, VOGUE (Feb. 19, 2018, 4:29 PM), https://www.vogue.com/article/colchagua-valley-chile-red-wine-paradise (discussing the production of *Neyen* wine in the Apalta Valley).

alcohol, releasing carbon dioxide as a byproduct.[382] This process can take days or months to complete, depending on the type of wine and the winemaker's goal. Throughout the process wine producers have an opportunity to adjust the sugar content (and thus the alcohol content), the flavors (such as oak from barrel aging), and the color (from grape skin contact).[383] Historically, these changes were achieved through natural processes, which often took time and yielded inconsistent results.[384] Winemakers have also sought to adjust the flavor of their wines by blending additives with the fermenting wine.[385] These have included a range of illegal substances (e.g., antifreeze or artificial colorants).[386]

Today, the principal modification to the flavor of the grape is through the use of wood. Most red wine is aged in oak barrels.[387] Different types of oak, different sized barrels, and different amounts of time in the barrels can dramatically change the flavor of the resulting wine.[388] Oak barrels, however, are expensive and they have a short life-span (often less than five years).[389] Steel vats, on the other

382. *Fermentation*, UNIV. WASH.: DEP'T ENVTL. & OCCUPATIONAL HEALTH SCI., http://depts.washington.edu/wineryhs/Fermentation.html (last visited Sept. 15, 2018).

383. *See* Steve Bader, *Adjust Wine Flavor in the Fermenter*, WINEMAKER, https://winemakermag.com/technique/38-adjust-flavor-in-the-fermenter-techniques (last visited Sept. 15, 2018).

384. *See* Laura Burgess, *The Crush is the First Step in Turning Grapes into Wine*, VINEPAIR (Aug. 22, 2016), https://vinepair.com/articles/the-crush-is-the-first-step-in-turning-grapes-into-wine/ (discussing how natural fermentation was the only fermentation method used until commercial fermentation chemicals became available).

385. *See* Bader, *supra* note 383.

386. *See* Adam Lechmere, *KWV Sacks Winemakers in Additive Scandal*, DECANTER (Dec. 10, 2004), https://www.decanter.com/wine-news/kwv-sacks-winemakers-in-additive-scandal-99113/ (describing the additive scandal in South Africa); *see also* John Tagliabue, *Scandal Over Poisoned Wine Embitters Village in Austria*, N.Y. TIMES (Aug. 2, 1985), https://www.nytimes.com/1985/08/02/world/scandal-over-poisoned-wine-embitters-village-in-austria.html.

387. *See Oak Aging & Wine*, U.S. FOREST SERV., https://www.fs.fed.us/wildflowers/ethnobotany/documents/OakAgingAndWine.pdf.

388. *See* Maria Kyraleou et al., *Addition of Wood Chips in Red Wine During & After Alcoholic Fermentation: Differences in Color Parameters, Phenolic Content & Volatile Composition*, 50 OENO ONE 209, 210 (2016), https://doi.org/10.20870/oeno-one.2016.50.4.885.

389. *See id.* (discussing the disadvantages of the barrel aging process).

hand, are useful for ensuring temperature-controlled, consistent aging, yet they fail to provide any flavor to the aging wine.[390] The addition of oak chips to the steel vats has arisen as a viable mechanism to keep the oak flavor without the expensive oak barrel.[391]

Adding oak chips or other flavorings was prohibited in the European Union prior to 2006,[392] though it is permissible today.[393] This change was made in order to keep up with American and Chilean producers, who have been using oak chips to their steel vats since at least the 1990s.[394] Given the length of time and resources required to acquire steel vats and age red wine with the proper balance of oak flavors, France is lagging behind the New World in the efficient oak-flavoring of red wines.

D. LABELING LAWS

While a consumer may enter a wine shop with certain ideas in mind about what to purchase, ultimately it is the wine label itself that will conclude the transaction. "If labels are not innovative, provocative, new and refreshing, the wine may be lost in the noise."[395] Wine labels provide the consumer with key information to distinguish different wine regions, grape varietals, vintages, and expected flavor profiles.[396] The more information available on the label, the more likely that consumer is to make an informed decision.[397] However, wine

390. *See* Dan Berger, *Wine & Steel: The Tank Revolution*, L.A. TIMES (Nov. 11, 1993), http://articles.latimes.com/1993-11-11/food/fo-55414_1_stainless-steel-tanks.

391. *See* Kyraleou et al., *supra* note 388, at 210.

392. *See id.*; *see also* Munsie, *supra* note 116, at 54 (explaining the rigid restrictions in the French wine regulatory system).

393. Council Regulation 2165/2005, 2005 O.J. (L 345) 1, Annex 2(c)(e) (EU).

394. *See* Prial, *supra* note 30 (discussing how the trend of using wood chips to flavor wine emerged in the United States in the 1990s).

395. Tom Mullen, *Traditional Bordeaux Wine Labels are Getting a Makeover*, FORBES (Feb. 20, 2017, 12:39 PM), https://www.forbes.com/sites/tmullen/2017/02/20/traditional-bordeaux-wine-labels-are-getting-a-makeover/#6d851d1f49a4 (quoting Stephen Barrante from Atomic Kid Studios, which produces labels for Bordeaux wines).

396. *See Wine Label Information*, WINE SEARCHER, https://www.wine-searcher.com/wine-label.lml (last visited Sept. 18, 2018) (discussing the relevant information contained on a wine label).

397. *See id.*

producers are vastly different in how they label their wines. Consider the example (*see* Figure 17 below) of a Californian, Chilean, and a French wine label:

Figure 17. Wine Labels from U.S., Chilean, and French Wines.

What is apparent from the wine labels above is that very different information is provided on each. The California wine label tells the consumer the firm name (Beringer), region of the grapes (Knights Valley), type of grape (Cabernet Sauvignon) and vintage (2009). The Chilean wine label also tells the consumer the firm (Amayna/Garces Silva), region of the grapes (Leyda Valley), type of grape (Chardonnay) and vintage (2010). The French wine label tells the consumer the chateau name (Fourcas Dupré), the grape region (Bordeaux), and the vintage (2015), but it does not provide the type of grape. If the consumer is well-educated in French wine appellations, they will know that this wine is likely a blend of one of the five authorized Bordeaux grapes (Cabernet Sauvignon, Cabernet Franc, Merlot, Petit Verdot, and Malbec),[398] though they will not know the blend ratio or flavor profile. A change in EU law which took effect in 2008 allowed producers to label their wines with the grape varietal to make it easier for consumers to make buying decisions (*see* Figure 18 below). However, many producers have chosen not to change from traditional labeling.[399]

398. *See* VINS DE BORDEAUX, https://www.bordeaux.com/us/Our-Terroir/Grape-varieties (last visited Oct. 20, 2018).

399. *See* Christine Sismondo, *How Wine Labels Shifted From Old World Class to Social Media-Worthy Sass*, GLOBE & MAIL (June 5, 2017), https://www.theglobeandmail.com/life/food-and-wine/wine/how-wine-labels-shifted-from-old-world-class-to-social-media-worthy-sass/article26657713/

Figure 18. French Wine Label Reflecting Grape Varietal.

American and Chilean wine regulations allow wine producers to include any information deemed relevant for the consumer on their labels. "Instead of confusing the consumer with local regions and classifications, American regulations in fact make it easier for the consumer to compare products and educate themselves on what they are buying, while having confidence in its safety."[400] New World producers have been giving consumers what they have demanded much longer than Old World producers, further cementing their brand recognition and approachability. French producers are just beginning to catch-up.[401]

X. CONCLUSION

> We must adapt to globalisation. We must make [what] the wine consumers want, and not the wine the producer dreams of.[402]

Winemaking has become more science than art. This revolution in the industry is being driven by New World producers that have sought

(describing the shift to modern wine labels and how some producers have opted to continue labeling with traditional styles).

400. Monica D. Mohan, *Out with the Old, in with the New: An Analysis of Economic Trends Beyond New World Wine Innovation*, 39 SUFFOLK TRANSNAT'L L. REV. 81, 104 (2016).

401. *See generally* Sismondo, *supra* note 399 (discussing the shift from traditional to modern wine labels).

402. Lara Marlowe, *Oak Chips Bring France a New World of Winemaking*, IRISH TIMES (Mar. 31, 2006, 1:00 AM), https://www.irishtimes.com/news/oak-chips-bring-france-a-new-world-of-winemaking-1.1290065 (quoting French civil servant Bernard Pomal's response to the new legislation allowing wood chips to flavor French wines).

an edge over the historically successful Old World producers.[403] For centuries, Old World wine producers were insulated from challenges by upstarts around the world largely because their institutional winemaking knowledge and protective regulations facilitated quality production. But the recent startups in the New World have caught-up, using innovative production and marketing tactics to produce not only attractive, but increasingly high-quality wines. The very regulations that have long protected Old World producers may be their Achilles heel.

This study endeavored to show that flexibility and innovation in the wine industry is necessary in order to generate consumer demand and meet evolving consumer preferences, and that regulatory policies that limit this flexibility in winemaking and marketing can stifle growth in the wine sector.

> In order for countries to remain competitive in the international wine market, they must be willing to adapt. Because each country has distinct traditions and considerations, the answer is certainly not to create legal uniformity. What is necessary is the ability to compromise between the tradition of quality and the marketability of wine on both the national and the (increasingly important) international levels.[404]

The Old World, through its recent regulatory reforms, has finally caught-on to the fact that it must evolve in order to compete. As Old World producers shed some of their traditional practices, we will have to ask whether they can maintain their quality and simultaneously catch-up to competitors who, thanks to open regulatory policies, have had quite a head start.

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403. *See* Mac Margolis et al., *Fixing the Grape; The Art of Winemaking Is Now A Science, Thanks To New World Vintners Who Aren't Shy About Change*, NEWSWEEK INT'L (Nov. 7, 2005), https://www.highbeam.com/doc/1G1-138237813.html (discussing New World winemaking techniques such "roto-fermentation, microoxygenation, reverse osmosis, infrared spectrometry and computerized vineyard models.").

404. Munsie, *supra* note 116, at 54–55.